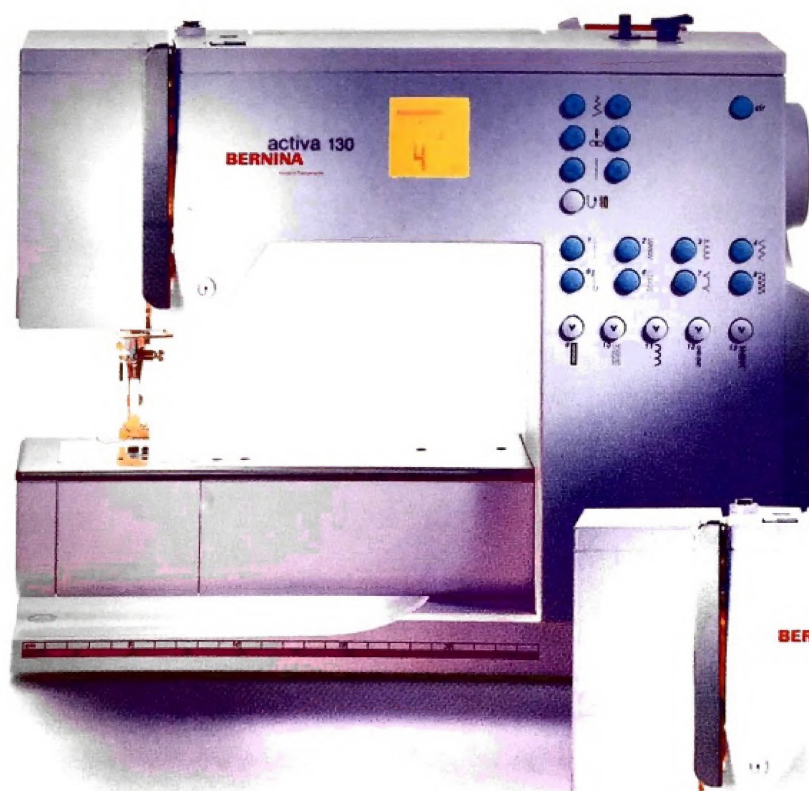


# BERNINA®

## *Instruction Manual & Sewing Manual*



**activa 130**  
**BERNINA®**

Made in Switzerland



**activa 140**  
**BERNINA®**

Made in Switzerland



# IMPORTANT SAFETY INSTRUCTIONS

When using an electrical machine, basic safety precautions should always be followed, including the following.

Read all instructions before using this sewing machine.

**When the machine is not in use, it should be disconnected from the electricity supply by removing the plug from the outlet.**

## DANGER

**To reduce the risk of electric shock:**

1. A machine should never be left unattended when plugged in.
2. Always unplug this machine from the electric outlet immediately after using and before cleaning.
3. Always unplug before replacing light bulb. Replace the bulb with the same type rated 12 volts/5 watts.

## WARNING

**To reduce the risk of burns, fire, electric shock or injury to persons:**

1. Do not allow to be used as a toy. Close attention is necessary when this machine is used by or near children.
2. Use machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.
3. Never operate this machine if
  - it has a damaged cord or plug
  - it is not working properly
  - it has been dropped or damaged
  - it has fallen into water
 Return the machine to the nearest authorized **BERNINA** dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the machine with any air openings blocked. Keep ventilation openings of the sewing machine and foot control free from accumulation of lint, dust and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing needle.
6. Always use the **BERNINA** original needle plate. The wrong plate can cause the needle to break.
7. Do not use bent needles.

8. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

9. Turn power switch to «0» when making any adjustments in the needle area, such as threading or changing the needle, threading the bobbin or changing the presser foot.

10. Always unplug the sewing machine from the electrical outlet when removing covers, lubricating or when making any other user servicing adjustments mentioned in this instruction manual.

11. Never drop or insert any object into any opening.

12. Do not use outdoors.

13. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.

14. Before disconnecting, turn all controls to the off («0») position then remove the plug from the outlet.


15. Do not unplug by pulling on the cord but grasp the plug.

16. No responsibility will be taken for any possible damage as the result of misuse of the machine.

17. This machine is provided with double insulation. Use only identical replacement parts. See instructions for Servicing of Double-Insulated machines.

## SERVICING DOUBLE-INSULATED PRODUCTS

In a double-insulated product, two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product nor should a means for grounding be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system and should only be done by qualified service personnel. Replacement parts for a double-insulated product must be identical to those parts in the product. A double insulated product is marked with the words «DOUBLE INSULATION» or «DOUBLE INSULATED».

The symbol  may also be marked on the product.

## SAVE THESE INSTRUCTIONS!

This sewing machine is intended for household use only.

# BERNINA®



"Welcome to  
the BERNINA  
family"

H. P. Ueltschi  
Owner BERNINA  
Sewing Machine Company

Choosing **BERNINA** is a decision which will have a **positive impact** on your sewing for **years** to come. Customer satisfaction has been the driving force of our family company for over 100 years and **I intend to continue** that tradition of delivering superb Swiss quality, future-oriented sewing technology and unparalleled customer service.

The new **BERNINA family of creative sewing machines** gives you the unique opportunity to select a la carte what you need to satisfy **your sewing needs** and requirements.

In addition a **wide range of sewing accessories** together with supportive educational **publications full of practical and creative ideas** add to the joy of sewing the BERNINA WAY.

It gives me **great pleasure to welcome you** into the BERNINA family.

Fritz Gegauf Ltd. · BERNINA Sewing Machines · CH-8266 Steckborn / Switzerland



**Setting up the machine**

**Operating instructions**

**Stitches**  
**Presser feet**

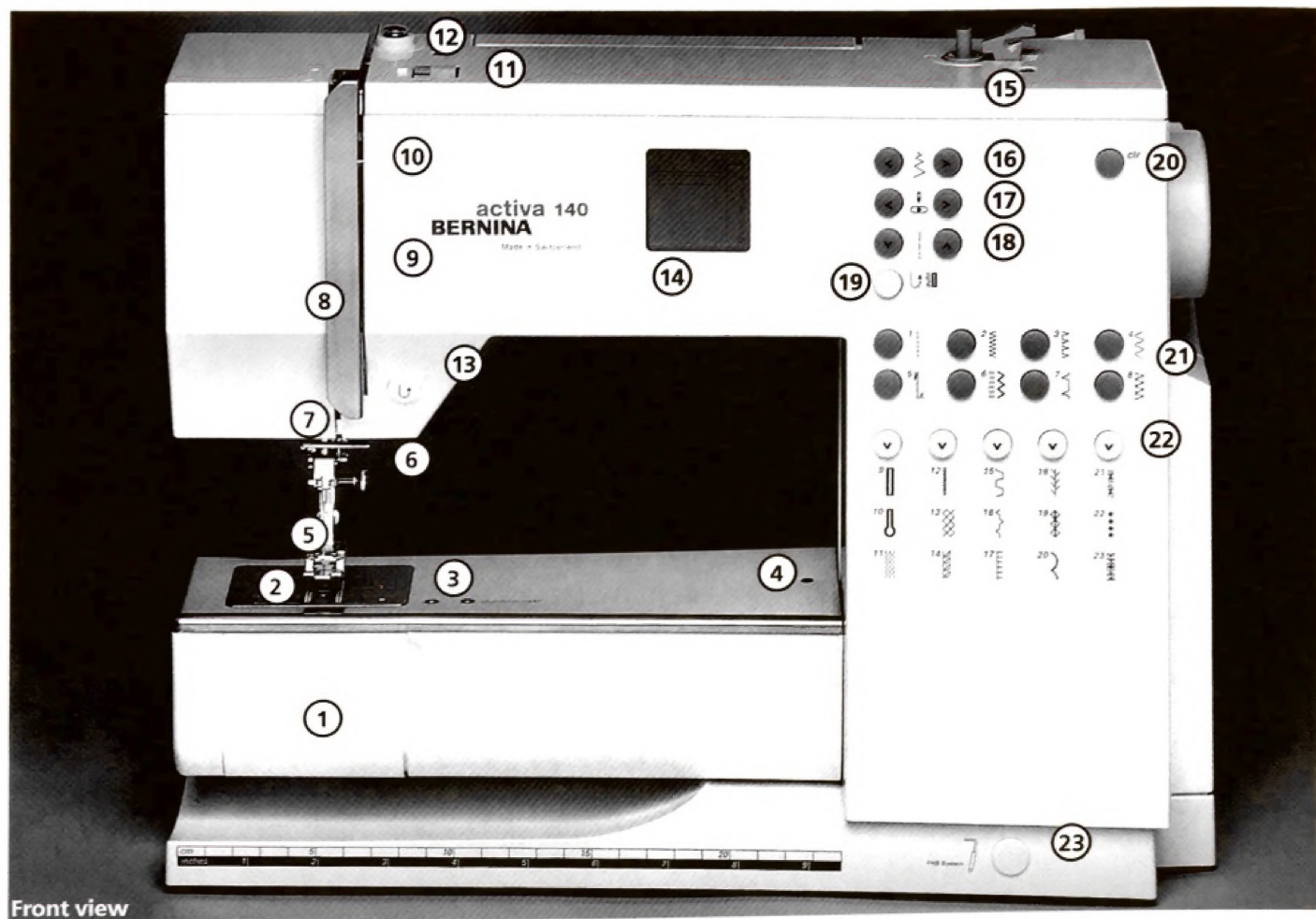
**Needle and thread**  
**Fabric feed**

**Cleaning**  
**Maintenance**  
**Trouble shooting**

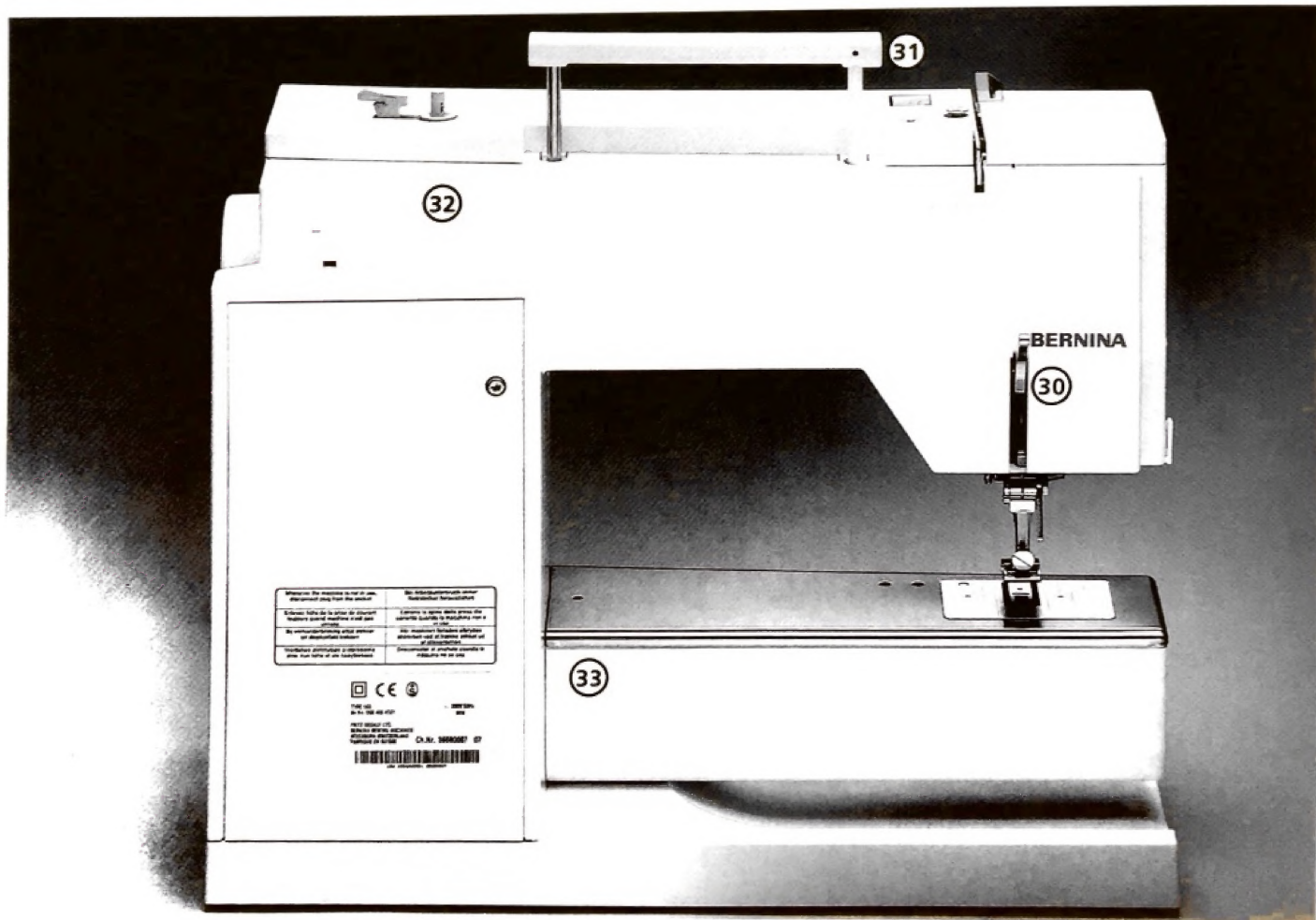
**Index**



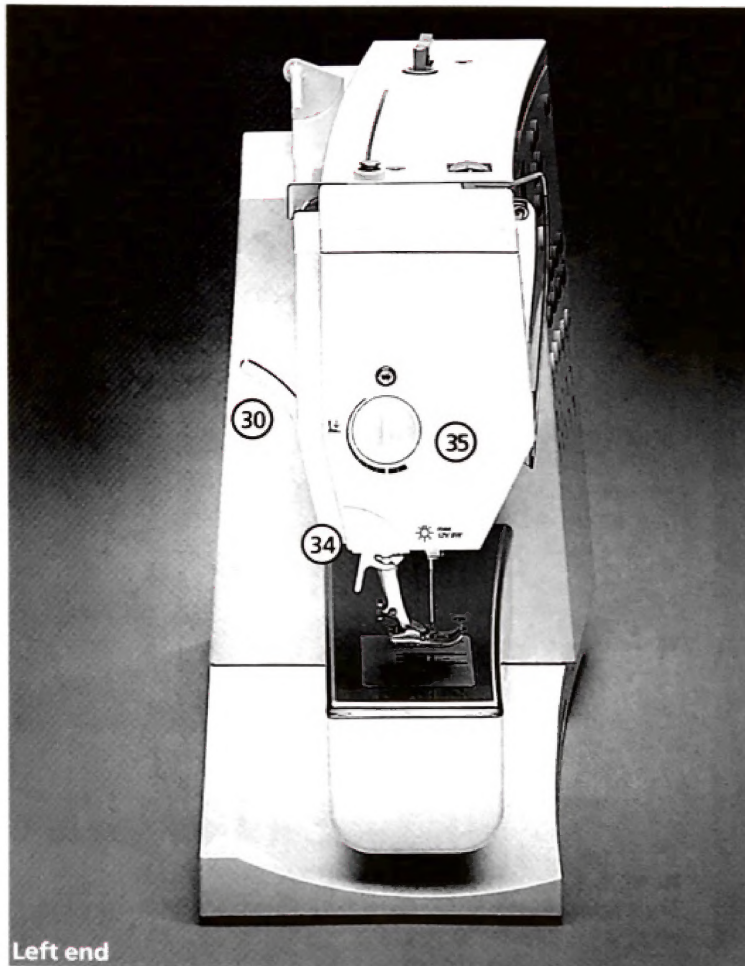
# 4 Details of the machine



Front view

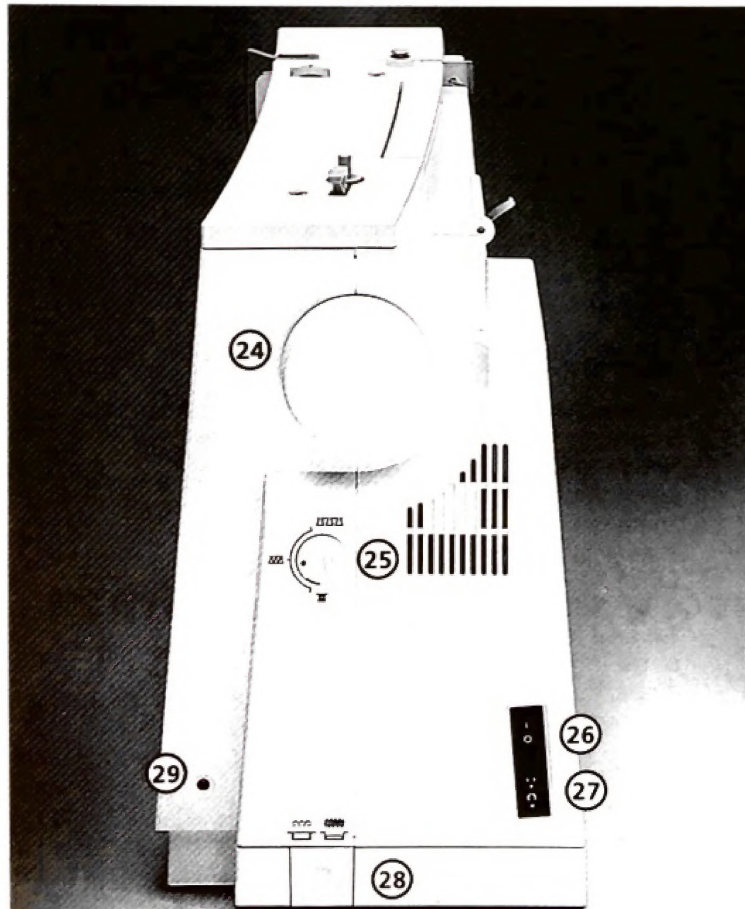






Left end

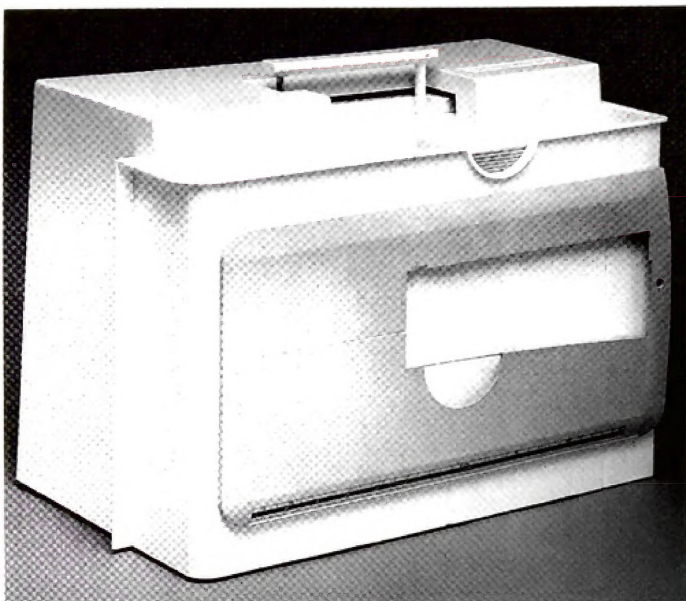
- 1 Bobbin cover
- 2 Stitch plate
- 3 Attachment base
- 4 Darning ring fixation hole
- 5 Presser foot
- 6 Needle clamp
- 7 Thread guide
- 8 Thread take-up cover
- 9 Thread slit
- 10 Thread take-up
- 11 Tension adjustment wheel
- 12 Bobbin pre-tension
- 13 Quick reverse button
- 14 Screen
- 15 Bobbin winder with on/off switch and thread cutter
- 16 Stitch width
- 17 Needle position
- 18 Stitch length
- 19 Continuous reverse
- Stitch counter buttonhole selector
- clr button
- 21 Stitch selection
- 22 Stitch group selection
- 23 FHS Presser foot lifter fixation hole
- 24 Handwheel
- 25 Balance
- 26 On/off power switch
- 27 Plug socket
- 28 Drop feed dog
- 29 Foot control socket
- 30 Presser foot lifter
- 31 Carrying handle
- 32 Spool pins
- 33 Sewing table socket
- 34 Thread cutter
- 35 Presser foot pressure



Right end



## Carrying case



### Carrying case

- protects machine from dust and dirt
- compartment for accessories

### Accessories

- foot control
  - instruction manual
  - power cable
  - warranty card
  - presser foot lifter\*
  - sewing table\* (attached)
- To remove the sewing table, lift slightly and remove.

\*Available as special accessory for activa 130, 140



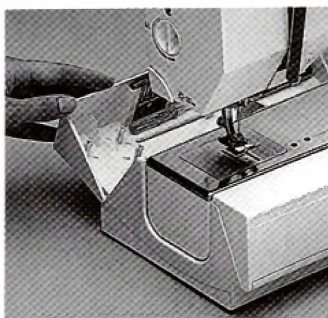
### To remove the case

- grasp both sides
- pull off vertically

### Note:

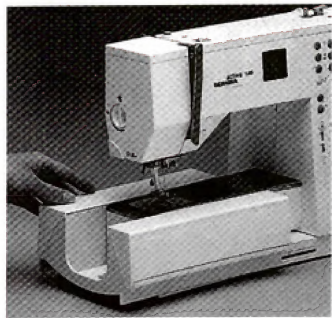
The separate spool pin must be removed to put the case on.

## Accessory box



### Enlarges the sewing surface

- To open, lower the cover to the back



### To remove

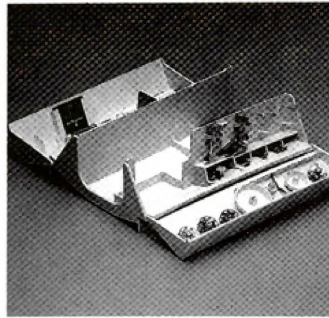
- pull the box to the left to work in free-arm mode

### To attach

- push the box to the right until it engages

### Note:

To remove the box, the hinged bobbin case cover on the free-arm must be closed.



### Standard accessories \*:

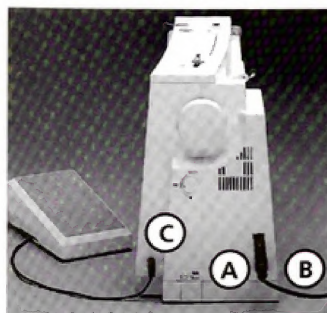
- 5 bobbins
- Needle selection 140/705H
- Seam ripper
- Small screwdriver
- Special screwdriver
- Brush
- Seam guide
- Reverse feed foot #1
- Buttonhole foot #3
- Zipper foot #4
- Blind stitch foot #5
- Height compensating plates
- Supplementary spool pin
- 3 spool discs

2 special BERNINA presser feet of your choosing

\*can vary from country to country



## Power cable



**The power cable** is stored in the case

- plug A into machine
- plug B into wall socket

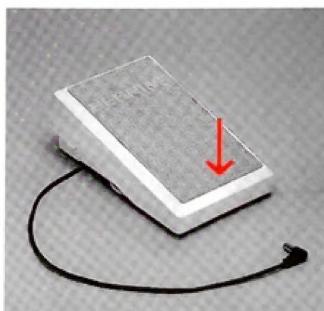
**Foot control cable**

- plug C into machine

**Important!** (USA/Canada only)

This sewing machine has a polarized plug (one blade wider than the other). To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.

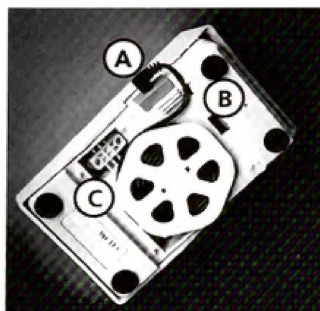
## Foot control



**The foot control regulates the sewing speed**

- raise or lower the needle by tapping on the foot control with your heel

**Important!**  
(USA/Canada only)  
Use only foot controller type LV1 or LV2 with sewing machines activa 130/140.



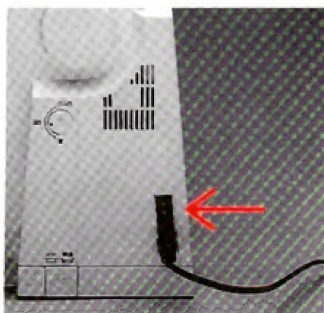
**Self storing cord**

- wind the cord on the reel
- insert the plug into A

**When sewing**

- slip the cable unwound to the desired length in B or C

## Power switch



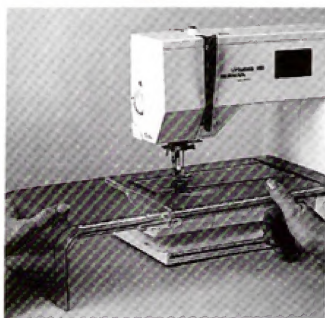
The switch is on the handwheel side of the machine

- **1** the machine is switched on
- **0** the machine is switched off

The sewing light is switched on and off with the power switch

**Refer to the safety instructions!**

## Sewing table\*



**Increases the sewing surface**

**To attach**

- place over the free arm and press firmly so that it engages on the fixing cam

**To remove**

- pull to the left
- remove

**Seam guide**

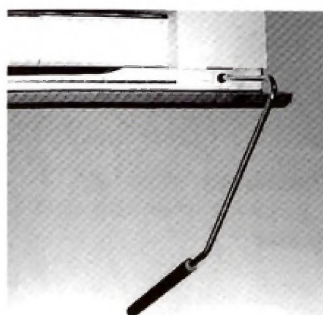
- insert into the groove (underside of table) from the right
- it can be freely adjusted over the whole width of the table

**Scale**

- number "0" corresponds to the centre needle position

**\* Available as a special accessory for activa 130, 140**

## FHS (Free Hand System) presser foot lifter\*



**The presser foot lifter raises and lowers the presser foot**

- Push to the right
- the presser foot is raised the feed-dog is lowered simultaneously
- the feed-dog is raised as soon as the first stitch is sewn

**Attaching the presser foot lifter**

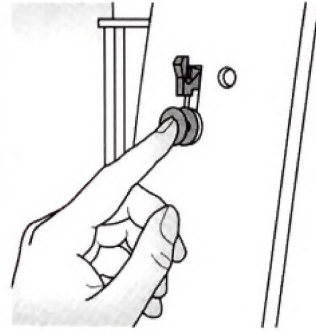
- The presser foot lifter is stored in the case
- insert the presser foot lifter into the opening in the base plate
- You should be able to operate the lifter with your knee in your normal sitting position

**Note:**  
Your dealer can adjust it if necessary.

**\* Available as a special accessory for activa 130, 140**

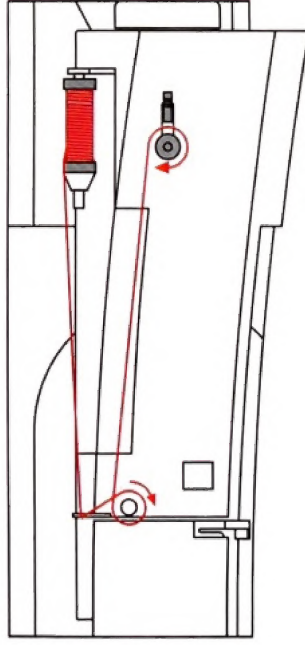


## Winding the bobbin

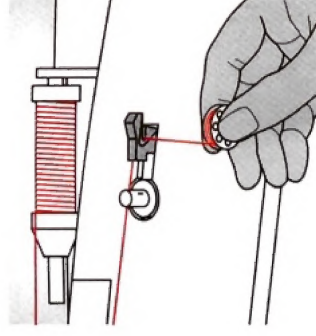


### Winding the bobbin

- turn power switch on
- place empty bobbin on spindle

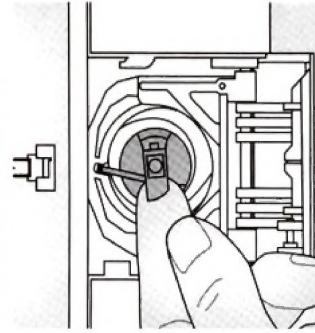


- following the direction of the arrow take thread through the rear guide and round the pre-tension stud
- wind it several times round the empty bobbin
- press the engaging lever against the bobbin
- press the foot control
- the motor will stop automatically when the bobbin is full
- remove the bobbin



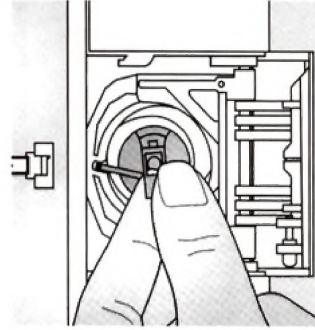
- cut the thread on the thread cutter

## Bobbin case



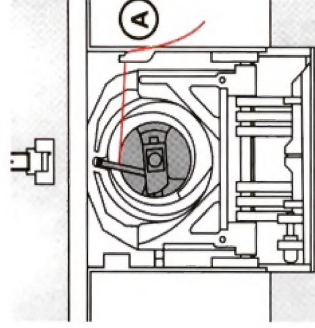
### To remove

- raise the needle
- turn power switch to 0
- open the accessory box cover
- open the bobbin cover
- grasp the latch of the bobbin case
- remove case



### To insert

- hold the bobbin case latch
- the finger on the case should point upwards
- insert so that it engages until it clicks
- close the bobbin cover
- close the accessory box cover



### Bobbin thread cutter

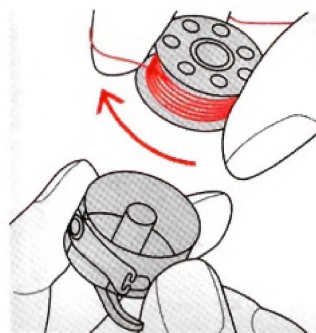
- insert the bobbin case
- take thread over cutter A
- thread is cut

### Note:

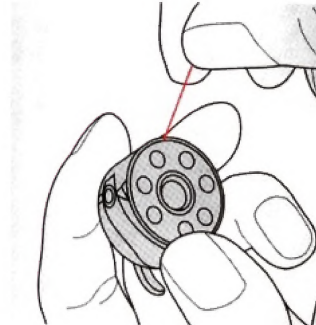
The bobbin thread does not have to be brought up as the loose end is just the right length to start sewing.

Refer to the safety instructions!

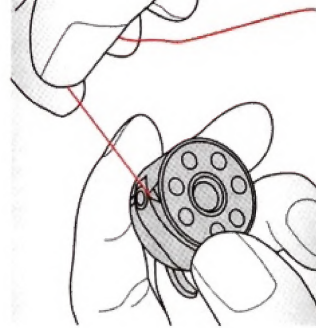
## Inserting the bobbin



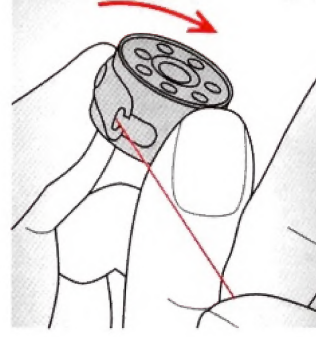
Insert the bobbin so that the thread runs clockwise.



Pull the thread counter clockwise into the slot.



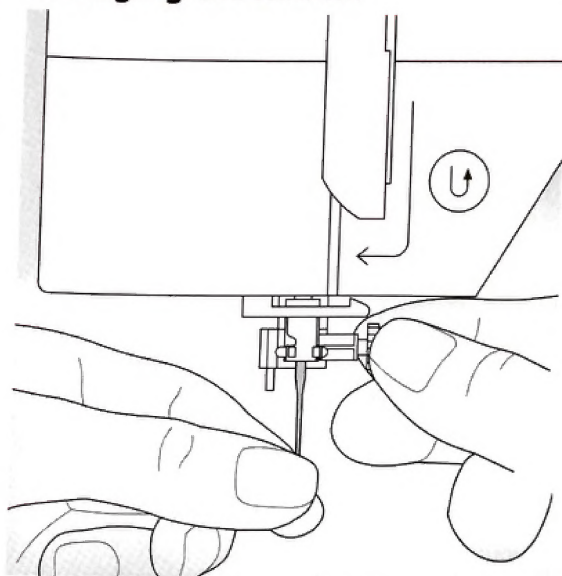
Pull the thread to the left under the spring until it lies in the T-shaped slit at the end of the spring.



The bobbin must turn clockwise when thread is pulled.



## Changing the needle



### Removing the needle

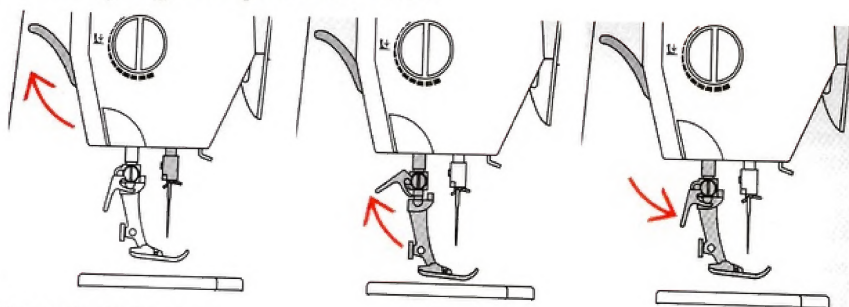
- raise the needle
- turn power switch to 0
- remove the presser foot
- loosen the needle clamp screw
- pull the needle down to remove

### Inserting the needle

- flat side of needle to the back
- insert the needle as far as it will go
- tighten the needle clamp

Refer to the safety instructions!

## Changing the presser foot



### Presser foot with shank

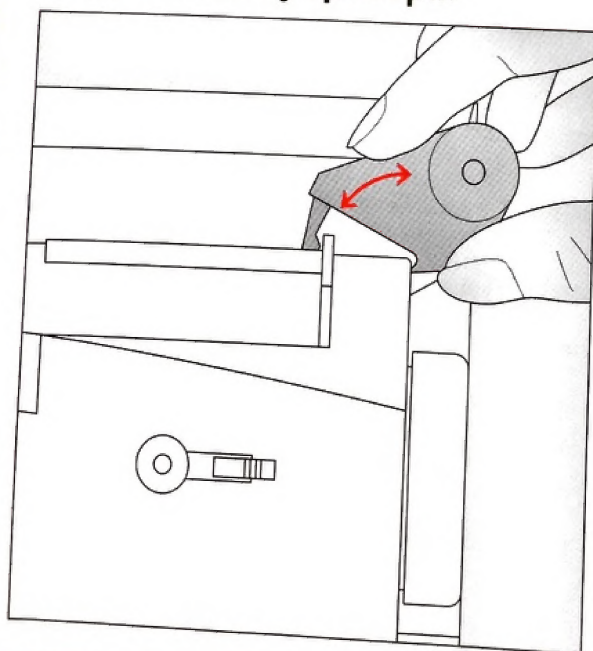
- raise the needle and presser foot
- turn power switch to 0

- raise the clamping lever
- remove the presser foot

### Attaching the presser foot

- guide the foot upwards over the cone
- press the clamping lever down

## Supplementary spool pin

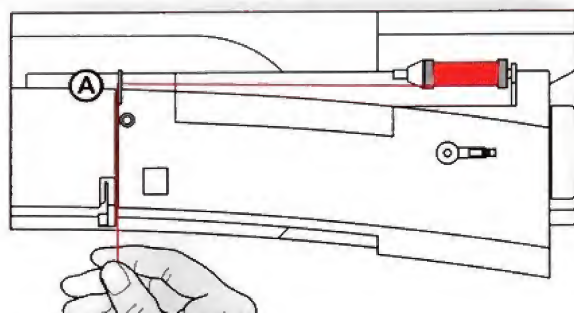


### Vertical spool pin

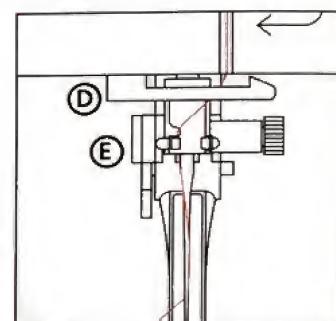
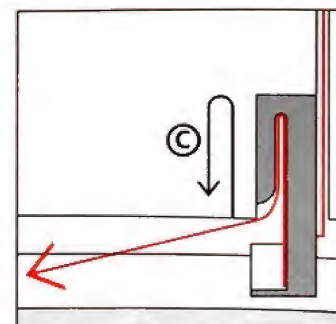
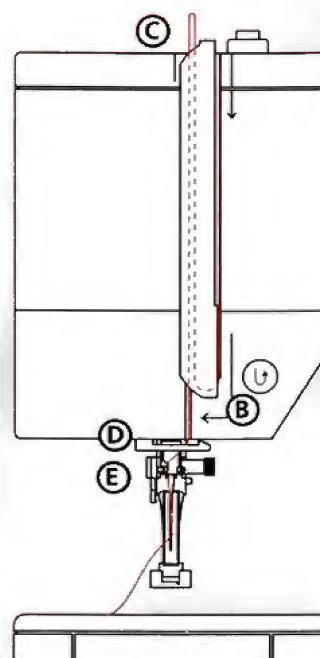
- the supplementary (vertical) spool pin is stored with the accessories
- push it from right to left in the opening provided
- pull it to the right to remove
- essential when sewing with more than one thread, e.g. for double needle work



## Threading the upper thread

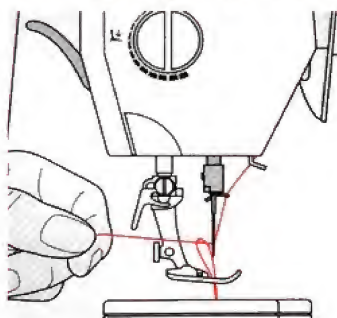


- raise the needle and presser foot
- turn the power switch to 0
- place spool on pin and attach the appropriate spool disc – diameter of spool = disc size
- take thread through rear guide A
- then into slit of upper thread tension
- pull thread down to the right of the take-up cover to B
- then up to the left of the cover to C
- and down through guides D and E



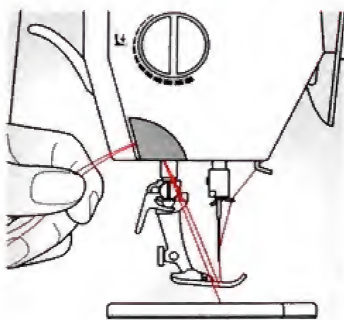
Refer to the safety instructions!

## Bringing up the lower thread



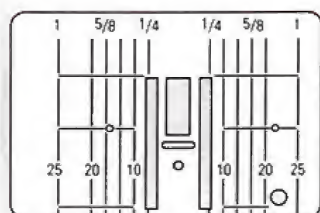
- hold the upper thread
- sew one stitch
- pull the upper thread until the bobbin thread appears in the stitch plate hole
- pull bobbin thread out of the hole and insert both threads through the slit in the presser foot towards the back
- pull threads over the cutter (34)

## Thread cutter



- pull both threads from front to back over the cutter
- the threads release as soon as the first stitch is sewn

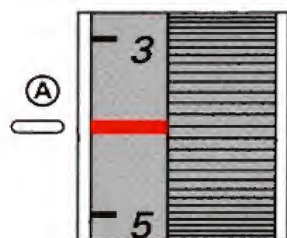
## Stitch plate



### Stitch plate markings

- the stitch plate is marked with seam guide lines in mm and inches
- the millimetre markings are at the front
- the inch markings are at the back
- the measurements indicate the distance from the needle to the lines
- the needle insertion point is 0 (= needle position centre)
- lines are provided to the right and left of the needle
- they are very useful guide lines for precise seaming
- the horizontal lines are useful for buttonholes, etc.

## Thread tension



### Basic settings

- the basic setting is indicated when the red line on the tension adjustment wheel is in line with the marking A
- the tension does not need adjusting for normal sewing work
- for special sewing work, the tension can be adjusted to suit the fabric

The tension can react differently when sewing with unusual threads and it is necessary to adjust the tension and select a needle which suits the thread.

For example:

	Tension	Needle
<b>Metallic thread</b>	approx. 3	90
<b>Monofilament</b>	approx. 2–4	80

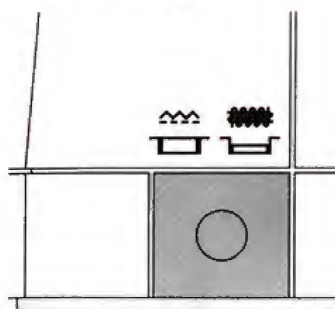
### To reduce the tension

- Turn to between 3 and 1

### To increase the tension

- Turn to between 5 and 10

## Feed-dog

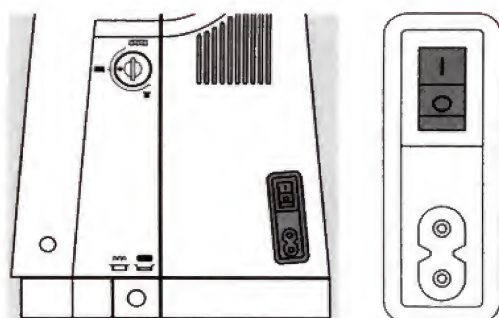


Button flush with base plate = sewing position

Button depressed = feed-dog is lowered  
 · for free-hand sewing (darning, embroidery, etc.)

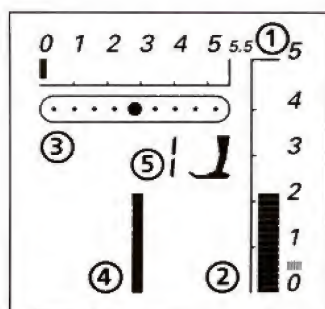


## General Instructions



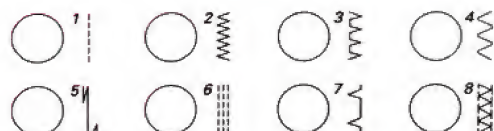
### Main switch to 1

- The machine is ready to sew



### The screen shows

- 1 stitch width basic setting blinks constantly
- 2 stitch length basic setting blinks constantly
- 3 needle position (9 positions)
- 4 stitch number 1 (straight stitch)
- 5 presser foot indicator (1 for straight stitch)

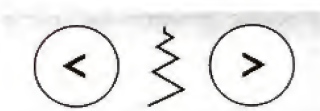


### Stitch selection

- press the appropriate button - the number and basic stitch length and width settings appear on the screen



- These buttons are to select vertically arranged stitches



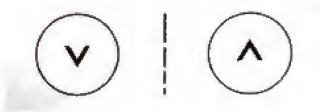
### Stitch width

- left button – narrow the zig-zag
- right button – widen the zig-zag



### Needle position

- left button – needle to the left
- right button – needle to the right



### Stitch length

- left button – shorten the length
- right button – elongate the length



### clr button

- deletes altered basic settings
- deletes selected functions

### exceptions:

- altered basic settings for buttonhole

## Functions

Functions are **activated** when the symbol appears on the screen.

Functions are **deactivated** when the symbols no longer appear on the screen.



### Continuous reverse/stitch counter buttonhole selector

- machines sews permanently in reverse
- also serves as the stitch counter buttonhole selector when the buttonhole menu is open



### Quick reverse

- for programming buttonholes
- for programming darning
- conversion from sewing to securing program
- manual securing for seam beginning and ending



### clr/del

- clears functions such as basic settings, stitch length, stitch width, needle positions

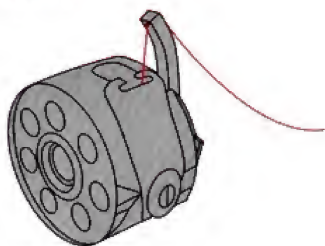
**Exceptions:** altered basic settings for buttonholes, continuous reverse

### Altered stitch memory

- in the altered stitch memory, alterations to the stitch width, length and needle position can be made for all stitches
- individual stitches can be reverted to basic settings using clr/del
- all altered settings in altered stitch memory are lost when the machine is switched off



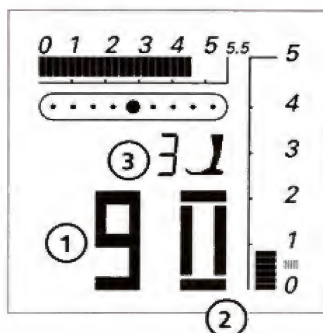
## Buttonholes



The sequence is the same for all buttonholes

### Preparation

- thread the lower thread in the finger of the bobbin case
- use Buttonhole foot No. 3



### Sewing buttonholes

- Select the buttonhole
- Screen shows
- 1 Buttonhole number
  - 2 Buttonhole symbol
  - 3 Presser foot

## Manual multiple-step standard buttonhole

Both beads are sewn in the same direction.

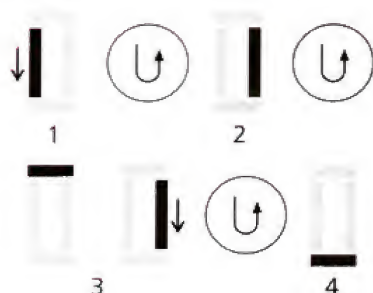
### Preparation:

- Buttonhole foot no. 3
- darning or sewing thread
- insert the lower thread in the finger of the bobbin case

### Always test sew buttonholes

- test on the fabric and stabilizer you intend to use
- sew buttonholes in the same grain direction (with or against)

The individual steps blink on the screen

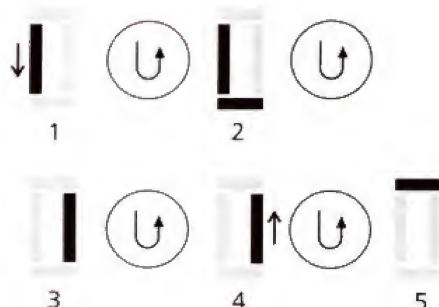


1. sew the first bead forward, stop the machine
  - press the quick reverse button
2. sew reverse straight stitch, stop the machine at the first stitch (buttonhole begin)
  - press the quick reverse button
3. sew the bar tack and the second bead, stop the machine
  - press the quick reverse button
4. sew the bar tack and the securing stitches

## Manual multiple-step keyhole buttonhole

The individual steps blink on the screen.

Sew both forward and reverse beads at the same speed.



1. sew the straight stitch forward, stopping the machine at desired length
  - press the quick reverse button
2. sew the eye and the bead stopping at beginning of buttonhole
  - press the quick reverse button
3. sew straight stitch forward to the keyhole
  - press the quick reverse button
4. sew second bead in reverse stopping at beginning of buttonhole
  - press the quick reverse button
5. sew bartack and securing stitches

## Manual multiple-step buttonhole (all types)

Manual buttonholes are particularly suitable for single buttonholes or for repairing existing buttonholes. Individual steps can be eliminated or repeated. The number of steps corresponds to the buttonhole type. Manual buttonholes cannot be saved.

## Stitch counter buttonholes

15

The first bead is sewn forward, the second bead backwards. Sew forward and reverse beads at the same speed.

### Preparation:

- Buttonhole foot No. 3
- darning or sewing thread
- insert the lower thread into the finger of the bobbin case

### Always test sew buttonholes

- test on the fabric and stabilizer you intend to use
- sew buttonholes in the same grain direction (with or against)

### Programmed buttonholes on other fabrics

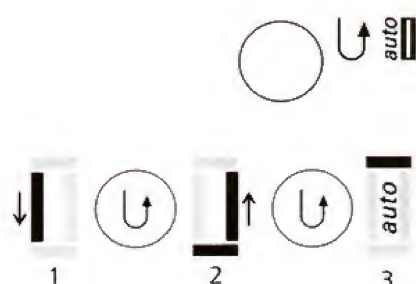
- the appearance of a programmed stitch counter buttonhole can vary on different types of fabric
- re-program on the fabric you wish to use!

### Corrections

- the buttonhole must be reprogrammed after altering the stitch length, width or balance
- test sewing on the new fabric is recommended

### Perfect buttonholes

- sew all the buttonholes at the same speed to keep the beads even
- sew at medium speed



Select buttonhole

Press the continuous reverse button (stitch counter buttonhole selector)

The individual steps blink on the screen

1. sew the first bead, stop machine, press the quick reverse button
2. sew the bottom bar tack (eye) and the second bead in reverse
  - stop machine at the first stitch (buttonhole begin)
  - press the quick reverse button
3. sew the top bar tack and securing stitches
  - machine stops automatically
  - AUTO appears
  - the buttonhole is now programmed
  - all subsequent buttonholes will be sewn as programmed
  - the machine stops automatically at the end of each buttonhole

Press the clr/del button to delete the programme.



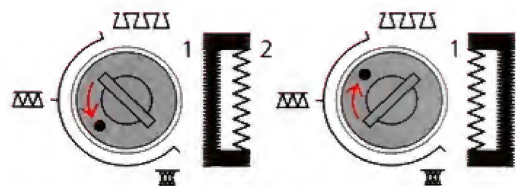
## Corrections

### Stitch length

- any changes to the stitch length affect both beads (denser or less dense)
- if the stitch length has been altered, reprogramme the buttonhole
- alterations to the stitch width or length cannot be cleared with the clr/del button

### Return to basic settings

- alter manually
- select the stitch and press the buttonhole button several times



1. Denser bead
2. Finer bead

1. Finer bead
2. Denser bead

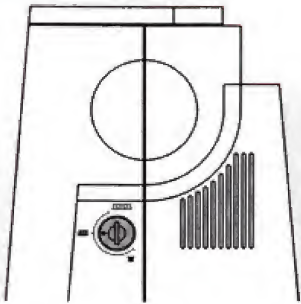
### Balance

- any alterations to the balance affect both beads (stitch counter buttonholes)
- if you alter the bead density with balance, delete the programmed buttonhole with the clr/del button and reprogramme the buttonhole with the new balance settings
- any balance alterations to the 6-step manual and auto length buttonholes affects both beads identically because they are sewn in the same direction

### Note:

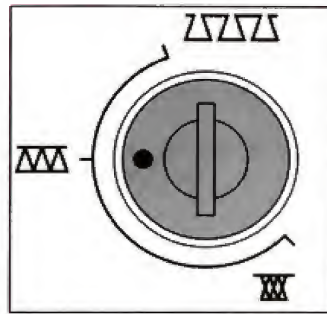
**When all buttonholes have been sewn, return balance to the normal setting**

## Balance

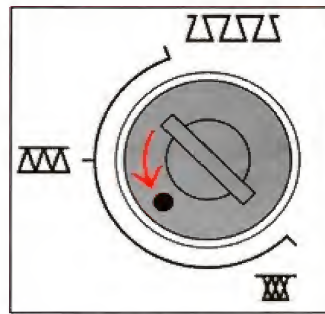


### Balance

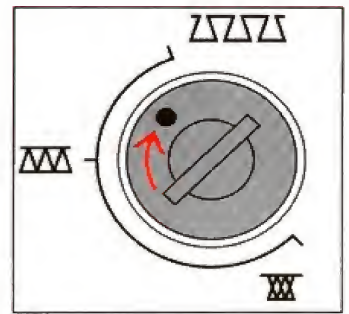
For balancing forward and reverse sewn stitches and for fine stitch length adjustments.



**Normal position**



**Denser stitch formation**  
(shorter stitch length)



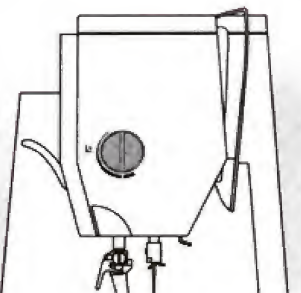
**Finer stitch formation**  
(longer stitch length)

**Note:**  
If the balance has been adjusted, return it to the normal setting once sewing is completed.

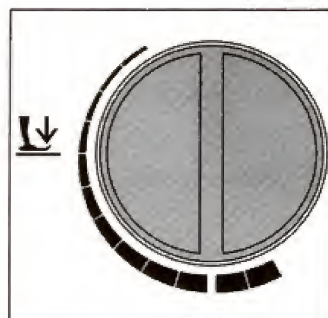
### Applications:

Practical stitches, e.g. Honeycomb stitch on jersey, decorative stitches, button-holes

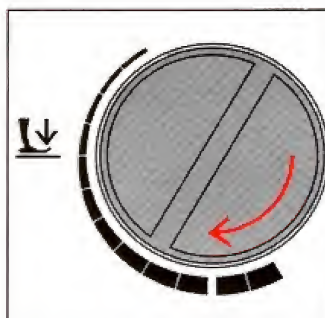
## Presser foot pressure



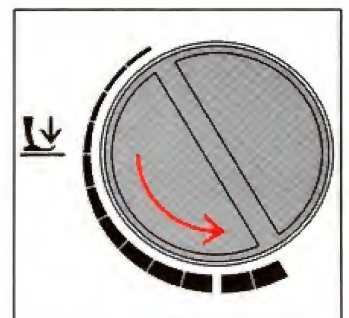
Pressure adjustment left end of machine



**Standard pressure**  
· for normal sewing work



**Reduced pressure**  
· for jerseys and loose knits  
· to prevent fabric stretching  
· adjust pressure so that the fabric still feeds correctly



**Increased pressure**  
· slippery, light weight fabrics  
improves fabric feed



## Stitch selection **activa 130**



### 1 Straight stitch

All non-stretch fabrics. All straight stitch work.



### 2 Zig-zag

Most fabric types. All simple zig-zag such as oversewing fine fabrics. Sewing on elastic and lace.



### 3 Vari-overlock

Primarily for fine jerseys, stretch overlock seams and hems.



### 4 Running stitch

Most types of fabric. Mending, patching, reinforcing seams.



### 5 Securing stitch

All types of fabric. Secures the beginning and end of seams sewn with straight stitch



### 6 Triple straight and triple zig-zag

Reinforced seams in tough, heavy fabrics.



### 7 Blind stitch

Most types of fabric. Blind hems, shell edging on soft jerseys and fine fabrics, decorative seams.



### 8 Double overlock

All types of knit. Overlock = sew and neaten in one operation

### Decoration stitches 11–13



### 9 Standard buttonhole














Fine to medium weight woven fabrics. Blouses, shirts, trousers, bedlinens, etc.






### 10 Darning program

Automatic darning for fine and medium weight fabrics.

## Stitch selection **activa 140**

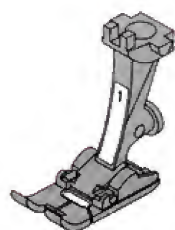
			<b>1 Straight stitch</b>	All non-stretch fabrics. All straight stitch work.
			<b>2 Zig-zag</b>	Most fabric types. All simple zig-zag such as oversewing fine fabrics. Sewing on elastic and lace.
			<b>3 Vari-overlock</b>	Primarily for fine jerseys, stretch overlock seams and hems.
			<b>4 Running stitch</b>	Most types of fabric. Mending, patching, reinforcing seams.
			<b>5 Securing programme</b>	For non stretch fabrics; for securing the beginning and end of seams with straight stitch
			<b>6 Triple straight and triple zig-zag</b>	Reinforced seams in tough, heavy fabrics.
			<b>7 Blind stitch</b>	Most types of fabric. Blind hems, shell edging on soft jerseys and fine fabrics, decorative seams.
			<b>8 Double overlock</b>	All types of knit. Overlock = sew and neaten in one operation
			<b>12 Super stretch</b>	Open seam for all super stretch fabrics.
			<b>13 Honeycomb stitch</b>	Most types of interlock and smooth fabrics. Visible seams and hems.
			<b>14 Jersey stitch</b>	Natural, blended or synthetic fabrics and delicate knits. Visible seams and hems. Mending jersey/interlock.
			<b>15 Universal stitch</b>	Firm fabrics such as felt and leather. Flat joining seams, visible seams, sewing on elastic, decorative seams.
			<b>16 Gathering stitch</b>	Most types of fabric. Gathering with shirring elastic. Butted seams = butting two pressed edges and sewing together.

### Decoration stitches 17–23

			<b>9 Standard buttonhole</b>	Fine to medium weight fabrics. Blouses, shirts, trousers, bedlinens, etc.
			<b>10 Keyhole buttonhole</b>	Heavy weight, non stretch fabrics. Jackets, coats, trousers, leisure wear, etc.
			<b>11 Darning program</b>	Automatic darning for fine and medium weight fabrics.



## Presser foot selection



**1 Reverse pattern foot**  
Practical and decorative stitches



**3 Buttonhole foot**  
Buttonholes



**4 Zipper foot**  
Sewing in zips

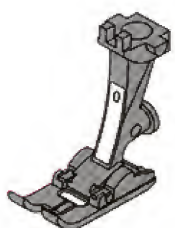


**5 Blind stitch foot**  
Blind hems, edge stitching

## BERNINA special presser feet (free choice)

The standard selection of presser feet covers most normal sewing requirements but we recommend the use of **BERNINA** purpose designed feet for special sewing tasks such as pintucking and darning.

As requirements vary, these presser feet are not included as standard. Instead you can select from a wide variety of special presser feet those that suit your particular sewing requirements. Ask your **BERNINA** dealer for details of the complete range.



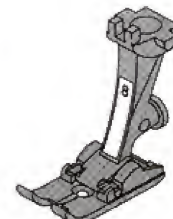
**0 Zig-zag foot**



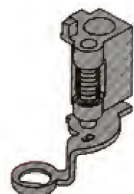
**2 Overlock foot**



**6 Embroidery foot**



**8 Jeans foot**



**9 Darning foot**



**10 Edge Stitch foot**



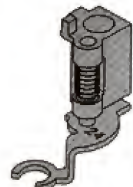
**20 Open Embroidery foot**



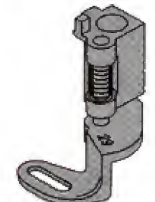
**21 Cording foot**



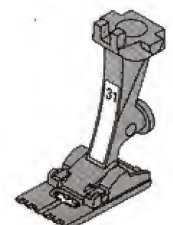
**23 Appliqué foot**



**24 Freehand Embroidery foot**



**29 Freehand Embroidery foot (quilting)**



**31 5 groove Pintuck foot**



**32 7 groove Pintuck foot**



**68 Roll and Shell hemmer 2 mm**



**69 Roll and Shell hemmer 4 mm**

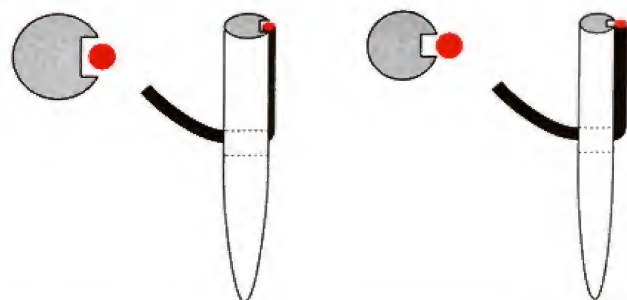
## Important facts about sewing machine needles

### Sewing machine, needle and thread

Your **BERNINA** uses needle system 130/705H.

#### Needle and thread

The most commonly sold needles are nos. 70–120. The finer the needle, the lower the number. The table shows which needle is suitable for which threads. The needle you use depends on the thread. The needle must be suitable for the thread.



When sewing, the thread runs in the long groove on the needle.

If the needle is too fine, the groove will be too narrow for the thread and faulty stitching or thread breakage can occur.

Needle	70	80	90	100	110–120
Darning thread	<input type="radio"/>	<input type="radio"/>			
Embroidery thread		<input type="radio"/>			
Mercerised cotton thread		<input type="radio"/>	<input type="radio"/>		
Synthetic thread		<input type="radio"/>	<input type="radio"/>		
Thick threads, synthetic mercerised thread			<input type="radio"/>	<input type="radio"/>	
Buttonhole thread for decorative seams (cordonnet)				<input type="radio"/>	<input type="radio"/>

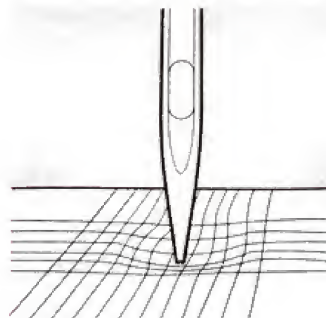
#### Needle and fabric

##### Condition of needle

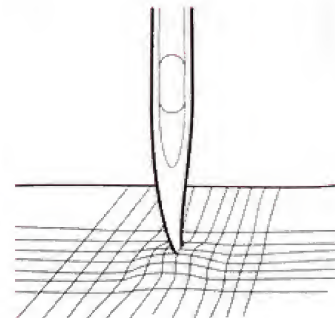
The needle must be in perfect condition. Problems can occur with damaged needles.



bent needle



blunt needle












hooked needle



## Important facts about sewing machine needles

Special materials are easier to sew if the appropriate needle is used.  
Special needles are available at your **BERNINA** dealer.

Needle table	Description	Needle point	Suitable for	
<b>Standard needle</b>	130/705 H	Normal point, slightly rounded	Universal needle for woven, synthetic and natural fibers, e.g. linen, chiffon, batiste, organdie, wool, satin, decorative stitching, embroidery	
<b>Special needles</b>	130/705-SES	Fine ball point	Fine knits, especially for synthetic fibers	
	130/705 H-SUK	Medium ball point	Heavier knits in synthetic or natural fibers	
	130/705 H-S	Medium ball point	Special needle for delicate or difficult stretch fabrics	
	130/705 H-J	Extra fine point	Overalls, heavy linen, denim, canvas. Pierces dense fabrics easily	
	130/705 H-LR+H-LL	Cutting point	Natural and synthetic leather, plastic, coated and waxed fabric	
<b>Double needle</b>	130/705 H DO	Widths: 1,6 / 2,0 / 2,5 / 3,0 / 4,0	Visible hems in stretch fabrics, pintucks, decorative sewing	
<b>Triple needle</b>	130/705 H TRI	Widths: 2,5 / 3,0	Decorative sewing	
<b>Hemstitch needle</b>	130/705 H	Width: 2,0	Hemstitch in loose weaves	

## Feed-dog and fabric feed

### Feed-dog and stitch length

With each stitch the feed-dog moves forward by one step. The length of this step is determined by the stitch length selected. With an extremely short stitch length, the steps are also short. The fabric moves under the foot quite slowly, even at full sewing speed. Buttonholes, satin stitch and decorative stitches are all sewn with a very short stitch length.

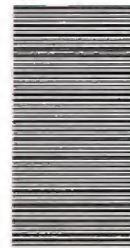
### Important



Let the fabric feed evenly!

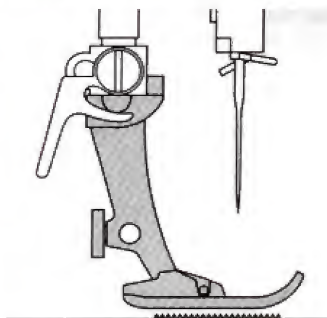


Pulling or pushing will result in gaps.

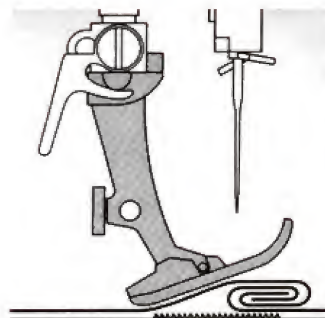


Holding back will result in knots.

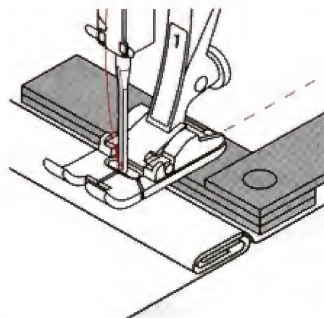
### Feed-dog and fabric feed



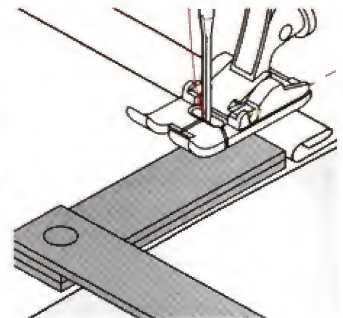
The feed-dog can work normally when the foot is level.



If the foot is at an angle, e.g. when sewing over thick to thin or vice-versa, the feed-dog can not grip and feed the fabric and the fabric hangs up.



To solve this problem, place one, two or three compensating plates as required behind the needle under the presser foot.

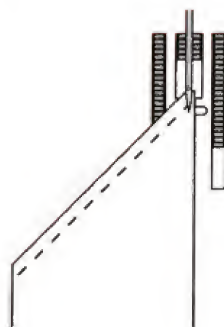


To correct the height in front of the foot, place one or more plates to the right of the foot next to the needle. Sew until the foot is level again and remove the plates.

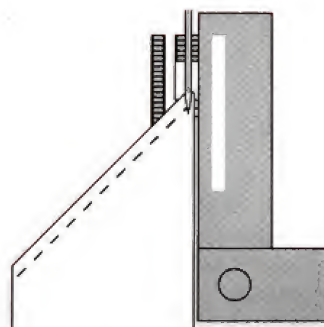
### Feed-dog and sewing corners



The gap between the two rows of teeth is relatively large due to the width of the stitch plate hole.



When sewing corners only a small section of the fabric is actually on the feed-dog so that it cannot grip the fabric well.



Correct this by placing one or more compensating plates as close as possible to the edge of the fabric.



## Cleaning

If the machine is stored in a cold room, it should be brought to a warm room about one hour before use.



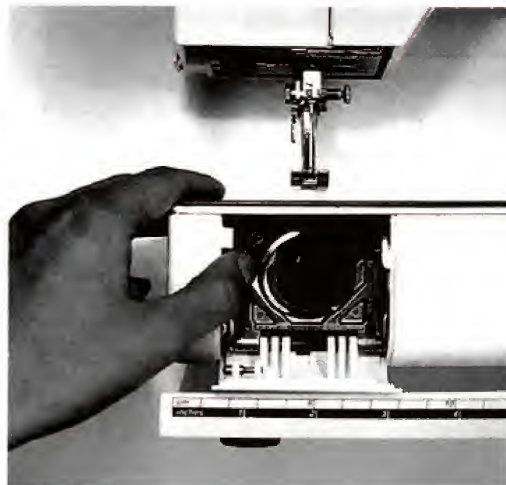
### Cleaning

Clean the machine after every use

- turn power switch to 0
- remove presser foot and needle
- open the free-arm cover
- press the stitch plate down at back right corner
- lift and remove it
- clean the area with the brush
- replace the stitch plate

### Cleaning the screen and the machine

- wipe with a damp cloth



### Cleaning the hook

- turn power switch to 0
- remove the bobbin case
- push the release lever to the left
- push the locking lever to the left and fold down the hook race cover
- remove the hook
- clean the hook race with a cloth or brush, never use a sharp instrument
- replace the hook, turning the handwheel if necessary so that the hook driver is on the left
- close the hook race cover and secure with the locking lever, the locking pin must engage
- check by turning the handwheel
- insert the bobbin case

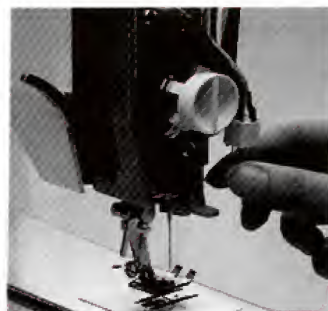
### Important!

Never use solvents of any kind!

### Lubricating

This machine is equipped with a LM (low mass) hook system which requires no lubrication. If however you do lubricate any parts, always run the machine immediately afterwards on scrap material to avoid soiling your work.

## Sewing light



**Note:**  
Use bulb type  
12 V 5 W.  
W 2.1 x 9.5 d.

**Refer to the safety instructions!**

**Light bulbs get hot. Allow to cool down before removal.**

### Replacing the bulb

- turn power switch to 0
- loosen the screw
- remove the cover
- remove the bulb
- insert the new bulb
- replace cover and tighten screw

## Trouble shooting

In most cases you will be able to identify and remedy faults by checking the following.

### Check whether:

- the upper and lower threads are threaded correctly
- the needle is inserted correctly with the flat side to the back
- the needle size is correct – check the needle/thread table
- the machine is clean – brush out any thread fluff
- the hook race is clean
- any threads are trapped between the tension discs or under the bobbin case spring

### Upper thread breaks

- The upper thread tension is too tight
- The needles are of a poor quality. Ideally needles should be purchased from your **BERNINA** dealer.
- The needle has been inserted incorrectly. The flat side of the shank must be to the back.
- The needle is bent or blunt.
- Poor quality, knotted or dried out thread has been used.
- Use the correct spool disc.
- Stitch plate or hook tip damaged. Take your machine to your **BERNINA** dealer.

### Lower thread breaks

- The lower thread tension is too tight.
- The bobbin is jamming in the bobbin case. Remove and replace the bobbin.
- The hole in the stitch plate has been damaged by the needle. This must be repolished by an expert.
- The needle is blunt or bent.

### Skipped stitches

- Wrong needles used. Use only 130/705H system.
- The needle is blunt, bent or incorrectly inserted. Push right to the top when inserting.
- Needle inserted all the way to the top.
- The needle point does not suit the fabric being sewn. If necessary use a ball point for knitted fabrics and cutting point for hard leather.

### Needle breaks

- Needle clamp screw loose.
- Fabric taken out in front of instead of behind the presser foot.
- When sewing over thick area, the fabric was pushed with the needle still in the fabric.
- Poor quality thread, unevenly wound or knotted.

### Faulty stitching

- Remnants of thread between the tension discs.
- Remnants of thread under the bobbin case spring.
- Lower thread still threaded in the bobbin case finger.
- Incorrect threading. Check upper and lower threads.
- Use the correct spool disc.

### Machine fails to run or runs slowly

- Plug not fully inserted.
- Power switch in off position.
- Machine has been standing in a cold room.
- Bobbin winder still switched on.

### Machine sews in reverse

- Reverse sewing function is still activated.



## Index

A		F		O		T	
Accessory box	6	Faults	23	Operating instructions	12	Thread cutter	11
Altered stitch memory	13	Feed dogs	11	Overlock stitch	18, 19	Thread tension	11
<b>B</b>		· and fabric feed	23	<b>P</b>		Thread	
Balance	17	· and presser foot	23	Personal memory	13	· and needle chart	21
Blind stitch	18, 19	· and sewing corners	23	Power cable	7	· and needles	21
Bobbin case		· and stitch length	23	Power switch	7	· bringing up the lower thread	10
· inserting	8	· lowering	11	Practical stitches	18, 19	· tension	11
Bobbin thread		Foot control	7	Presser feet		· upper thread	
· breaks	25	Free-Hand System	7	· changing	9	threading	10
· bringing up	10	Functions	13	· selection	20	Threader	10
· inserting	8	<b>G</b>		Presser foot display	12	Triple straight stitch	18, 19
· winding	8	Gathering stitch	19	Presser foot lifter	7	Triple zig-zag stitch	18, 19
Bulb		General operating instructions	12	Presser foot pressure	17	Trouble shooting	25
· changing	24	<b>H</b>		<b>Q</b>		<b>U</b>	
Buttonholes		Honeycomb stitch	19	Quick reverse	13	Universal stitch	19
· manual 4-step keyhole	14	Hook		<b>R</b>		Upper thread	
· manual 6-step standard	14	· cleaning	24	Reverse sewing		· breaks	25
· stitch counter	15	<b>I</b>		· continuous	13	· threading	10
· balance	16, 17	Index	26	Running stitch	18, 19	<b>V</b>	
<b>C</b>		<b>J</b>		<b>S</b>		<b>Z</b>	
Cable	7	Jersey stitch	19	Safety instructions	1	Zig-zag stitch	18, 19
Cable connection	7	<b>M</b>		Securing stitch	18, 19		
Carrying case	6	Maintenance	22	Sewing corners	23		
Cleaning	24	<b>N</b>		Sewing light	24		
clr/del button	13	Needle		Sewing table	7		
Contents	3	· threading	10	Skipped stitches	25		
Continuous reverse	13	· and thread	21	Stitch counter			
Corners	23	· information	22, 23	buttonhole selector	13		
<b>D</b>		· changing	9	Stitch length	12		
Darning program	18, 19	Needle position	12	Stitch width	12		
Details of the machine	4, 5	Needle stop up/down	12	Stitch plate markings	11		
				Stitch selection	18, 19		
				Straight stitch	18, 19		
				Supplementary spool			
				pin	9		
				Super stretch	18, 19		





# Sewing Manual



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<b>Straight stitch/zig-zag</b>	<b>2–5</b>	<b>1</b>
<b>Decorative stitches</b>	<b>6, 7</b>	
<b>Seams, hems with practical stitches</b>	<b>7–10</b>	
<b>Sewing knits</b>	<b>11, 12</b>	
<b>Zippers</b>	<b>13</b>	
<b>Blind hem</b>	<b>14</b>	
<b>Elastic</b>	<b>15, 16</b>	
<b>Buttonholes</b>	<b>17–19</b>	
<b>Darning/mending tears</b>	<b>20–24</b>	
<b>Index</b>	<b>25</b>	



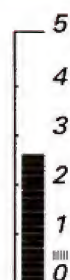
## Straight stitch

Stitch: **Straight stitch**  
 Needle: **80/70**  
 Thread: **machine/darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Straight stitch (A)

The machine is ready to sew as soon as you switch on

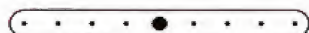
- select straight stitch
- presser foot display
- basic settings (length and width) for straight stitch
- basic settings blink constantly



### Altering the stitch length (B)

You can alter the length while you sew:

- ⓪ shorten
- Ⓐ lengthen



### Change the needle position (C)

- ⬅ to the left
- ➡ to the right



### Securing with quick reverse button (frame)

- press the button and the machine sews in reverse
- release the button and the machine sews forwards



A B C



### TIP

#### Adjust the stitch length to suit the fabric:

- e.g. denim = longer stitch length (approx. 3–4)

#### Adjust the stitch length to suit the thread:

- e.g. cordonnet for top stitching = longer stitch length (approx. 3–5)

## Securing stitch (straight stitch)



Stitch: **Securing stitch**  
 Needle: **80/70**  
 Thread: **machine/darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

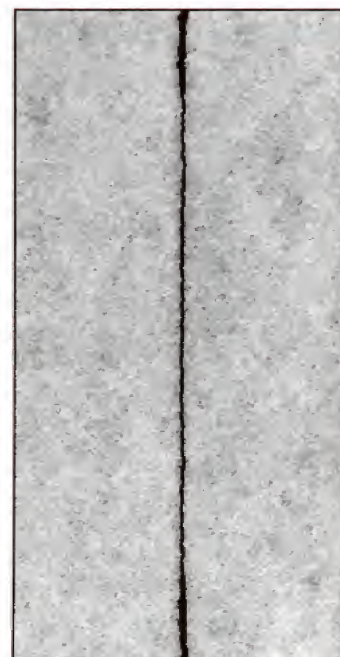
**Securing stitch**  
 for all fabrics  
 secures beginning and end of seam

### Stitch selection

- press the appropriate button

### On-screen

- stitch number selected
- presser foot
- basic settings (width and length)



### Sewing

#### Seam begin

- machine secures seam automatically (5 stitches forward, 5 stitches reverse)
- continue with straight stitch



#### Seam end

- press the quick reverse button  
 machine secures automatically (5 stitches forward, 5 stitches reverse)
- machine stops automatically when securing is complete



### TIP

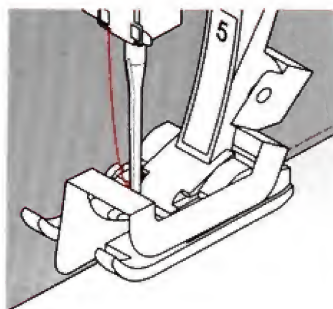
#### Sewing long seams

- quick and easy securing at beginning and end of seam



## Edge stitching

Stitch: **Straight stitch**  
 Needle: **80/90–110**  
 Thread: **machine/cordonnet**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1 or Blind stitch foot no. 5**  
**Edge stitch foot no. 10 (optional)**



### Narrow edge stitching

#### Needle position

- left for outer edge
- right for inner edge

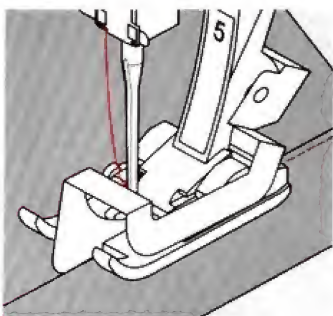
#### Presser foot

- Blind stitch foot no. 5

#### Example

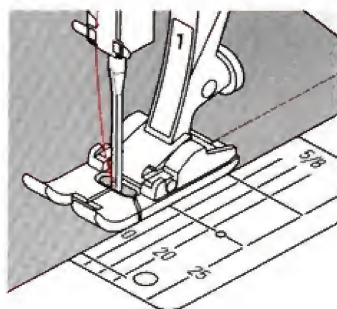
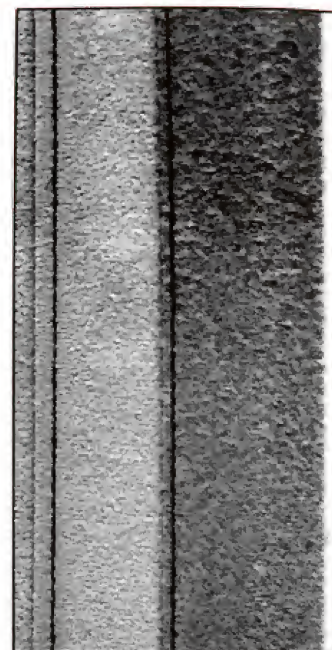
##### Outer edge

- place edge of fold against the guide on the foot
- select needle position at desired distance from the edge



#### Hem edges

- place edge of fold against the guide on the foot
- select needle position right



### Wide edge stitching

#### Needle position

- all

#### Presser foot

- Reverse pattern foot no. 1

#### At a foot's width (A)

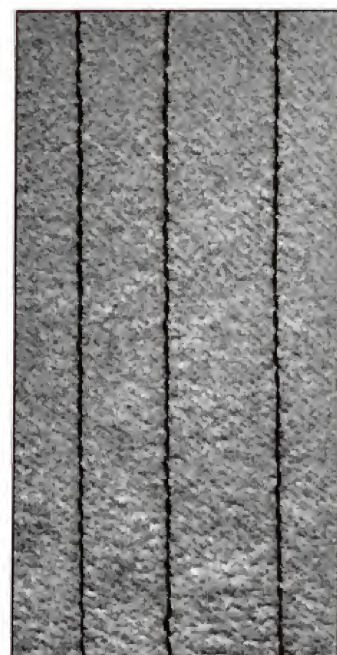
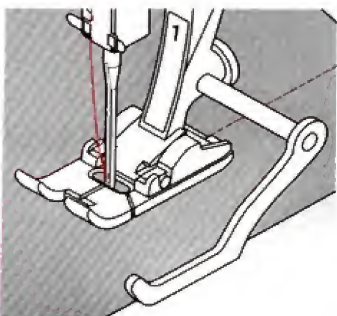
- guide the fold along the edge of the presser foot sole

#### At 1–3 cm (B)

- guide the folded edge along the markings on the stitch plate

#### Seam guide (C)

- insert the seam guide into the hole on the presser foot shaft
- adjust as desired
- guide the folded edge along the seam guide
- to sew parallel lines, guide the fabric along a previously sewn line of stitches



A B C



## TIP

### Edge stitching with seam guide

- a big help when sewing parallel lines and criss-cross

## Zig-zag stitch



Stitch: **Zig-zag**  
 Needle: **80/70**  
 Thread: **machine/darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

**Zig-zag stitch**  
 for all fabrics  
 for neatening edges  
 for decorative work

### Stitch selection

- press the appropriate button (zig-zag)

### On-screen

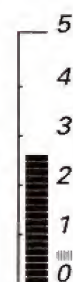
- presser foot
- basic settings (length and width)



### Altering the stitch width (A)

the width can be altered while you sew

- ⊕ wider
- ⊖ narrower



### Altering the stitch length (B)

the length can be altered while you sew

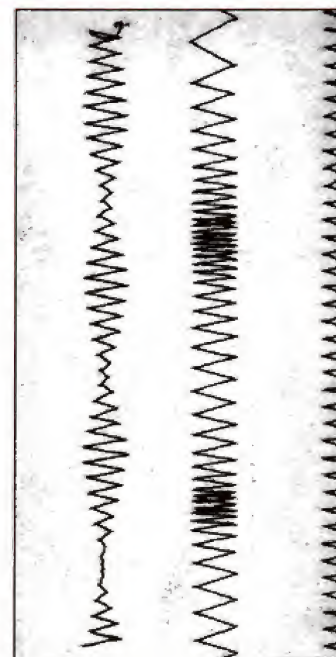
- ⬇ shorter
- ⬆ longer

### Satin stitch

dense (shorter) zig-zag stitch = filled in zig-zag

### Oversewing edges (C)

- guide edge of fabric under the center of the presser foot
- needle goes into fabric on one stroke and over the edge of the fabric on the next stroke
- do not select too wide a width or too long a stitch – the edge should lie flat and not roll
- use darning thread for fine fabrics



A B C



## TIP

### Oversewing edges with zig-zag

- if edges roll, use Vari-overlock stitch and foot no. 2 (optional foot)

### Embroidery with satin stitch

- adjust the stitch width as you sew for new effects



## Decorative stitches

Stitch: **Decorative stitch**  
 Needle: **80/90**  
 Thread: **machine/embroidery**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**  
**Embroidery foot no. 6 (depending on the stitch) (optional)**

**Decorative stitches**  
 for all fabrics, for embellishing

**Stitch selection (A)**  
 · press appropriate button

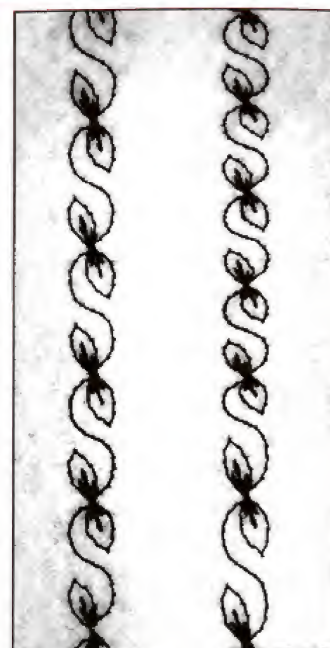
### Altering the basic settings



**Stitch width**  
 > wider  
 < narrower



**Stitch length (B)**  
 v shorter  
 ^ longer



A

B



### TIP

#### Altering the basic settings

- stitches can be adjusted to suit your own tastes, e.g. for dolls clothes, reduce the width
- the size of motifs can be adjusted to suit small items

#### Decorative stitches on single layer of fabric:

- always use stabilizer underneath
- remove after sewing is complete

## Practical stitch seams

### Open seams

Seams which are pressed open

- seam allowance width as wide as wanted
- seam lies flat
- seam does not stretch open

Application: primarily for woven fabrics

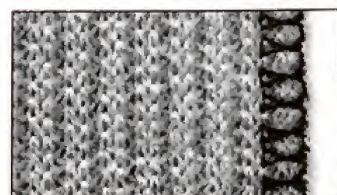


### Closed seam (overlock seams)

Seams which cannot be pressed open

- sewn and neaten in one operation
- narrow seam allowances

Application: primarily for knits and jerseys



## Zig-zag seam



Stitch: **Zig-zag**  
 Stitch width: **approx. 1**  
 Stitch length: **approx. 1/2**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

**Open seam**  
 in knits and jerseys



### TIP

**Seam in jersey or knits waves**

- reduce presser foot pressure to suit the fabric



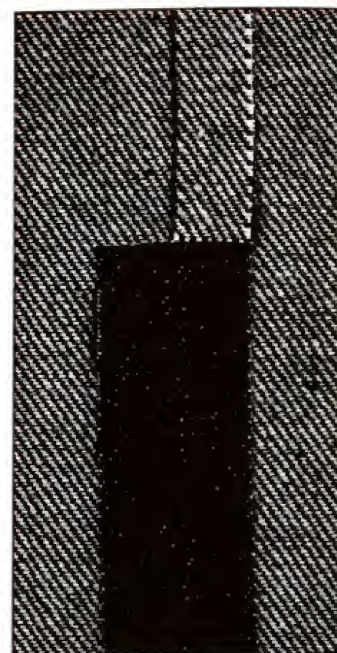
## 8 Triple straight stitch seam



Stitch: **Triple straight stitch**  
 Needle: **80/90**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Open seam

strong seam for firm and densely woven fabric such as denim and corduroy



### TIP

Use a Jeans needle  
for densely woven fabrics

## Super stretch seam



Stitch: **Super stretch** (only activa 140)  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Open seam

flexible seam for very stretchy fabrics, particularly for sports and leisure wear



### TIP

#### Knits and jersey

- use a new ball point needle to prevent damaging the loops

#### Sewing stretch fabrics

- if necessary use a stretch needle (130/705H-S) = needle point slides between the fibers

#### Seam in knits or jersey waves

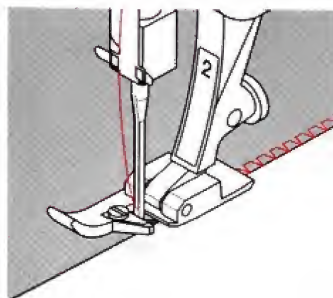
- reduce presser foot pressure to suit the fabric



## Vari-overlock seam



Stitch: **Vari-overlock**  
 Needle: **80/70**  
 Thread: **machine/darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1 or  
 Overlock foot no. 2 (optional)**

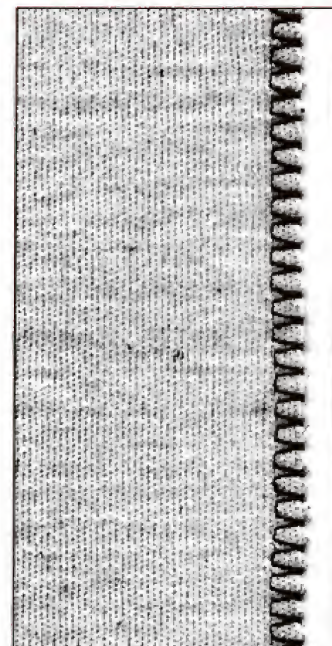


### Closed seam

stretchy seam in fine, soft knits such as silk jersey and interlock

### Sewing

· guide the raw edge along the pin on the overlock foot



## TIP

### Knits and jersey

· use a new needle to prevent damaging the loops

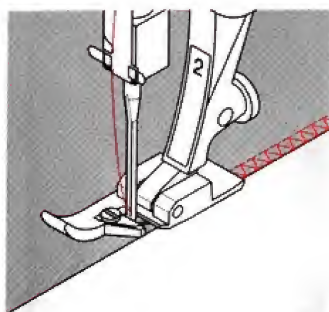
### Sewing stretch fabrics

· if necessary use a stretch needle (130/705H-S) =  
 needle point slides between the fibers

## Double overlock seam



Stitch: **Double overlock**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1 or  
 Overlock foot no. 2 (optional)**

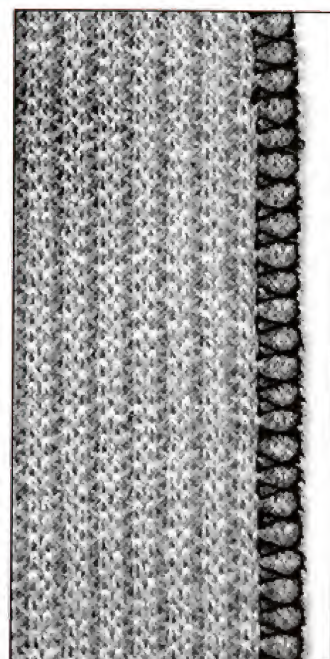


### Closed seam

overlock seam in loose knits and cross seams in knits and jerseys

### Sewing

· guide the raw edge along the pin on the overlock foot



## TIP

### Knits and jersey

· use a new needle to prevent damaging the loops

### Sewing stretch fabrics

· if necessary use a stretch needle (130/705H-S) =  
 needle point slides between the fibers



## Hems with practical stitches

### Preparation

- press hem and baste if desired

### Sewing

- sew hem at desired depth (right side)
- trim surplus fabric (wrong side)

## Visible hem with Jersey stitch



Stitch: **Jersey stitch** (only activa 140)  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Visible stretch hem

for all types of cotton, wool, synthetic and mixed fiber jersey



### TIP

#### Knits and jersey

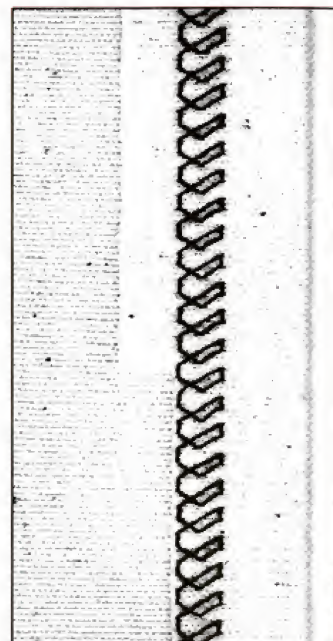
- use a new ball point needle to prevent damaging the loops

#### Sewing stretch fabrics

- if necessary use a stretch needle (130/705H-S) = needle point slides between the fibers

#### Machines without Jersey stitch

- use Vari-overlock stitch, guide straight stitches along raw edge of hem



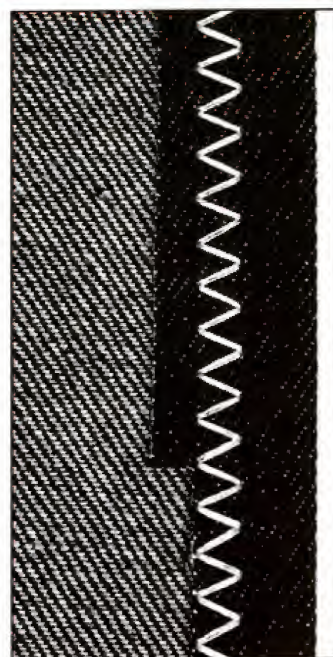
## Visible hem with Triple zig-zag stitch



Stitch: **Triple zig-zag**  
 Stitch width: **2.5–5 depending on fabric**  
 Stitch length: **basic setting**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Strong visible seam

for firm, densely woven fabrics, particularly good for denim and canvas



### TIP

#### Hems on items which are to be washed frequently

- first neaten raw edges and do not trim after sewing

#### Sewing firm, densely woven fabrics

- use a Jeans needle

## Sewing knits

### Important information

#### Perfect needle

- blunt needles can damage knits

#### Use a stretch needle (130/705 H-S) if necessary

- the needle point slides between the fibers

#### Fine sewing thread

- coarse threads can damage knits and cause holes when the garment is washed

#### Darning thread for basting

- it's easier to remove when oversewn

#### Sewing test, when necessary

- the elasticity of modern fabrics varies greatly
- adjust basic settings to suit the fabric; the seam should be as stretchy as the fabric
- for greater elasticity:  
use a shorter stitch length and a wider stitch width  
(only one of these adjustments may be necessary)

#### Presser foot pressure

- soft, loose knits can wave when sewn:
- reduce the pressure until the seam lies flat
- the machine must still feed the fabric properly

## Self-facing with Honeycomb stitch



Stitch: **Honeycomb** (only activa 140)  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Self-facing with visible seam

for all cotton, wool, synthetic and mixed fiber jersey

#### Preparation

- press 1 cm (3/8") to wrong side

#### Sewing

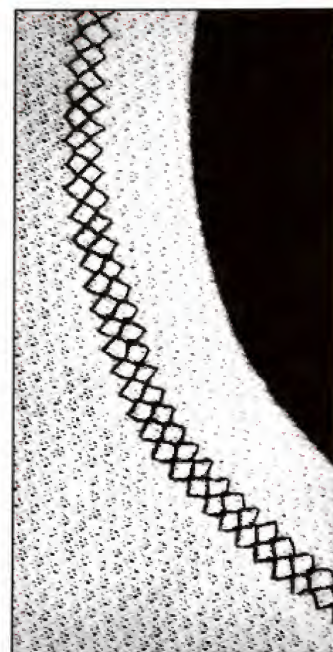
- sew from the right at a foot's width from the edge
- trim surplus fabric (wrong side)

#### Balance/corrections

- Honeycomb stitch is not closed  
bring stitch together  
= **adjust balance – (subtract space between stitches)**



- open out stitch  
= **adjust balance + (add space to stitches)**



### TIP

#### Needle stop down

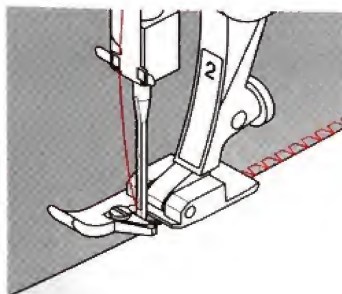
- needle stays in fabric when you stop to adjust the ribbing



## 12 Ribbing with overlock seam



Stitch: **Vari-overlock**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1 or  
 Overlock foot no. 2 (optional)**



**Ribbing with overlock seam**  
 for all fine cotton, synthetic and mixed fiber jersey

**Preparation**

- fold ribbing in half
- pin and baste to opening, right side outside

**Sewing**

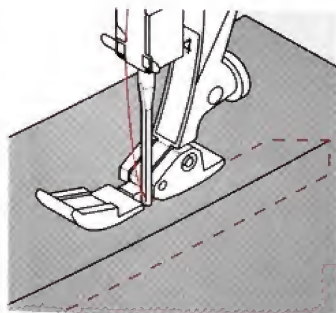
- sew Vari-overlock over the raw edge
- guide the edge along the pin on the foot

**TIP****Needle stop down**

- needle stays in fabric when you stop to adjust the ribbing

# Zippers

Stitch: **Straight stitch**  
 Needle: **80/100**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Zipper foot no. 4**  
 Needle position: **change needle position to right or left**



## Preparation:

- baste in zipper
- fabric edges should meet over the center of the zipper

## Sewing

- sew in the zipper, each side from bottom to top
- once with needle position right and once with needle position left
- the edge of the foot runs along the teeth of the zip
- the needle inserts close to the teeth



## TIP

### To sew around zipper pull

- close zipper and sew up to about 5 cm (2") away from the pull
- insert needle, raise the presser foot, open the zipper, lower the foot and continue to sew

### Seam begin

- hold thread firmly when starting to sew = pull fabric slightly to the back (fewer stitches)

### Zipper or fabric is thick or densely woven

- use a 90–100 needle for even stitch formation



## Blind hem



Stitch: **Blind hem**  
 Needle: **80**  
 Thread: **machine/fine thread or lightweight thread**  
 Feed-dog: **sewing**  
 Presser foot: **Blind stitch foot no. 5**

### Blind hem

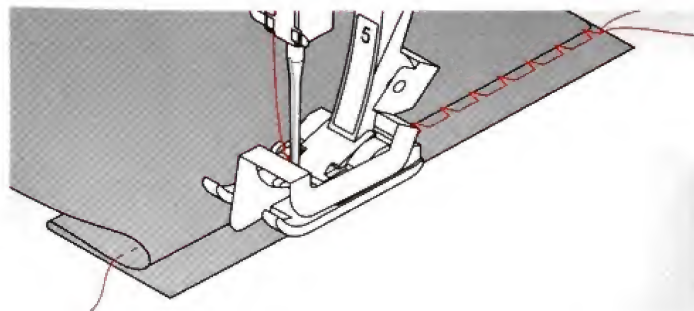
for invisible hems in medium to heavy cotton, wool and blended fabrics

### Preparation

- neaten raw edges
- prepare seam as for sewing by hand
- place work under the presser foot (see drawing)

### Sewing

- the needle should just pierce the edge of the fold (same as hand sewing)
- adjust the stitch width to suit the fabric
- if stitches are visible from the right, adjust the guide on the presser foot with the screw
- after sewing about 10 cm (4"), check both sides of fabric and adjust width again if necessary



## TIP

### Even stitching

- hold fabric back lightly while sewing

### Fine stitch width adjustment

- guide the folded edge evenly along the metal guide on the foot = even depth

## Sewing on elastic/cord



Stitch: **Universal stitch** (only activa 140)  
 Stitch width: **depending on width of elastic**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1 or Embroidery foot no. 6 (optional)**

### Sewing on elastic

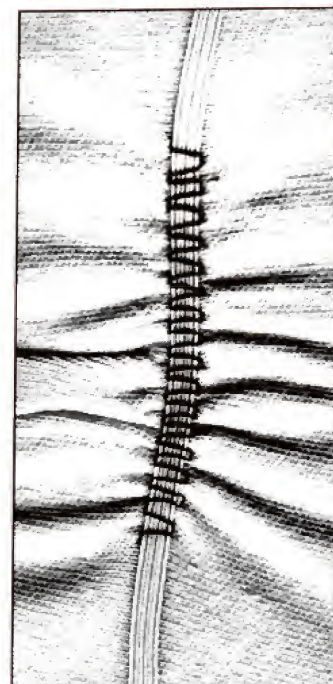
for gathering long lengths of fabric, frills and flounces in fine fabrics

### Preparation

- cut elastic to length required

### Sewing

- sew over elastic
- needle must not pierce elastic
- after sewing, pull elastic to adjust



## TIP

### Secure the beginning and end of elastic

- sew a few straight stitches backward and forward to secure the elastic

### Quick hem finish

- for children's or doll's clothing
- sew hem with elastic before sewing side seams

## Sewing on shirring elastic/cord with Gathering stitch



Stitch: **Gathering stitch** (only activa 140)  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Buttonhole foot no. 3**

### Shirring elastic/cord

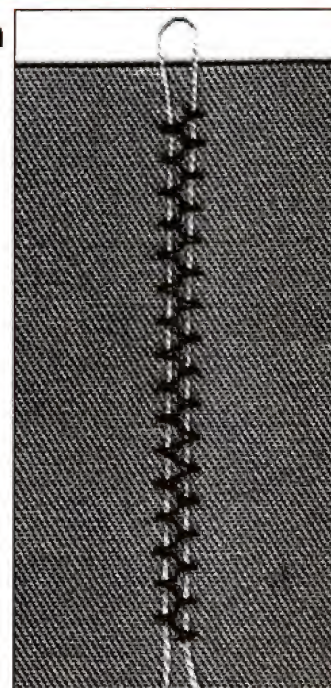
for gathering long lengths of fabric

### Preparation

- cut elastic/cord double the length of the fabric
- fold in half
- hook over the center prong on the buttonhole foot
- take both ends under the foot to the back

### Sewing

- sew a few stitches
- lift elastic/cord at the front and pull towards you
- leave ends behind the presser foot
- oversew cord
- after sewing pull the cord to gather the fabric
- stretch elastic while sewing
- the tighter it is stretched, the tighter the gathers



## TIP

### Securing beginning and end

- sew a few stitches with the feed-dog lowered



## Sewing on wide elastic with Running stitch



Stitch: **Running stitch**  
 Stitch length: **adjust to suit elastic**  
 Needle: **80**  
 Thread: **machine thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

### Wide elastic

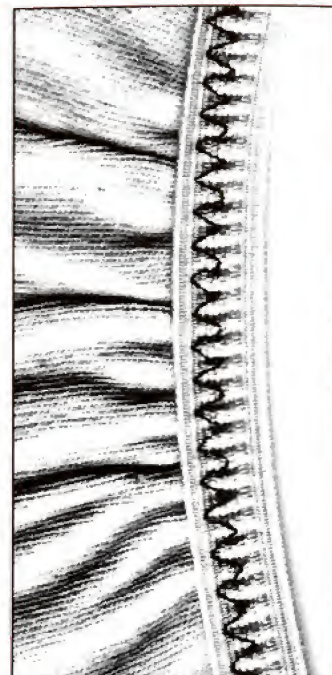
for finishing openings on sports wear and lingerie

### Preparation

- cut elastic to length required
- divide opening and elastic into 4 equal sections and mark
- pin elastic to opening, matching up markings

### Sewing

- as you sew, stretch the elastic to fit the opening
- trim surplus fabric



### TIP

#### Gather the fabric edge first

- makes it easier to sew on elastic = elastic remains flat when sewing

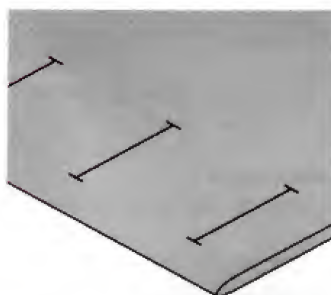
#### Elastic is stretched

- reduce the presser foot pressure to suit fabric and elastic

# Everything you need to know about buttonholes

## Thread tension

- thread the bobbin thread through the finger of the bobbin case
- the bobbin tension is a little tighter
- this gives the beads on the right side of the fabric a slightly rounded appearance
- the buttonhole looks more attractive
- gimp reinforces buttonholes and enhances their appearance (page 18)



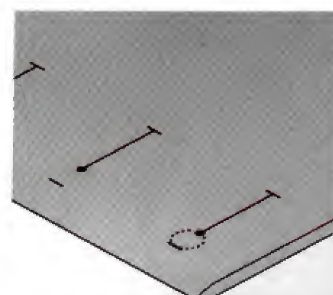
## Mark the length of manual buttonholes

- mark the buttonhole length in the appropriate position



## Mark the length of automatic buttonholes

- mark the length of just one buttonhole
- after sewing the first buttonhole, the length for all subsequent buttonholes is automatically programmed
- mark only the beginning of all subsequent buttonholes



## Mark the length of keyhole buttonholes

- mark the bead length only
- the correct length eye will be added when the buttonhole is sewn

## Test sewing

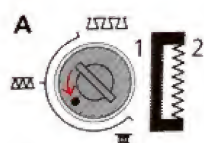
- always test sew on the fabric and stabilizer you intend to use
- select the buttonhole type you intend to use
- sew the buttonhole in the same direction on the fabric (with or against the grain)
- cut the buttonhole open
- push the button through and adjust the buttonhole length if necessary

## Corrections

- To adjust the bead width:
- alter the stitch width

## Altering the stitch length:

- any alterations to the stitch length affect both beads (denser or less dense)
- **always reprogram the buttonhole after any changes to the stitch length**



1. Denser bead
2. Finer bead



1. Finer bead
2. Denser bead

## Balance

- any alterations to the balance affect both beads (stitch counter buttonholes)
- if you alter the bead density with balance, delete the programmed buttonhole with the clr/del button and reprogramme the buttonhole with the new balance setting
- any balance alterations to the 6-step manual and auto length buttonholes affects both beads identically because they are sewn in the same direction

## Note:

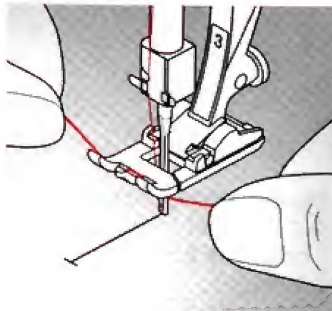
**When all buttonholes have been sewn, return balance to the normal setting**



## Standard buttonholes with gimp

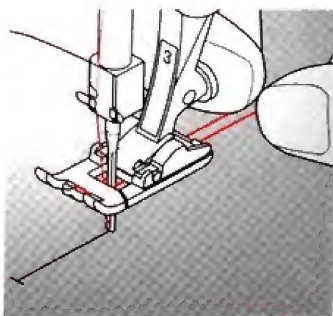
### Gimp

- gimp cord reinforces buttonholes and enhances their appearance
- the loop of the cord should be at the end of the buttonhole most subject to wear cord loop = where button is sewn on
- position the work accordingly
- gimp cord is particularly recommended for standard and stretch buttonholes
- Ideal cords:
  - Perle yarn No. 8
  - strong hand sewing thread
  - fine crochet yarn



### Hooking the cord onto presser foot No. 3

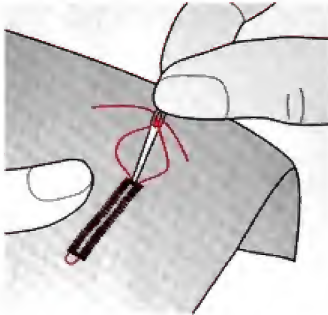
- insert the needle at the beginning of the buttonhole
- raise the presser foot
- hook the cord over the centre pin on the front of the foot



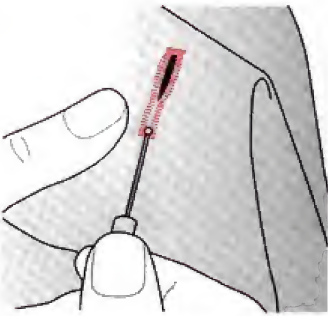
### Hooking the cord in presser foot No. 3 and sewing

- pull both ends of the cord in the grooves of the foot to the back
- lower the presser foot
- sew the buttonhole
- do not hold the cord tightly

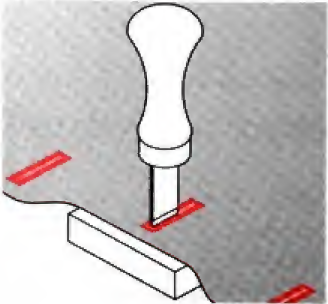


**Securing the cord**

- pull the cord through the buttonhole
- pull cords through to back of fabric
- knot or secure with stitches

**Cutting buttonholes open**

- using the seam ripper, cut from the ends towards the middle

**Buttonhole cutter and block (special accessory)**

- place the fabric on the wood
- place the cutter in the centre of the buttonhole
- press down on the cutter with your hand or a hammer



## 20 Edging knits with shirring elastic



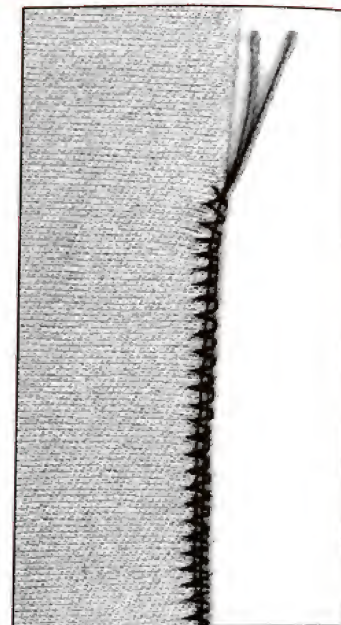
Stitch: **Zig-zag**  
 Stitch width: **approx. 5**  
 Stitch length: **1–1.5**  
 Needle: **80/70**  
 Thread: **darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**

**Edges in knits with shirring elastic**

prevents openings from stretching and helps retain their shape

**Sewing**

- guide double length of shirring elastic along the edge of the fabric
- stretch the elastic lightly
- oversew with zig-zag

**TIP****Pulling in and reinforcing openings**

- do not sew on the elastic, only over it
- adjust elastic afterwards to regain the correct shape and size

**Stretch fabrics stretch while sewing**

- reduce the presser foot pressure to suit the fabric

## Patches on woven fabrics



Stitch: **Running stitch/  
Honeycomb** (only activa 140)  
Needle: **80/70**  
Thread: **darning thread**  
Feed-dog: **sewing**  
Presser foot: **Reverse pattern foot no. 1**

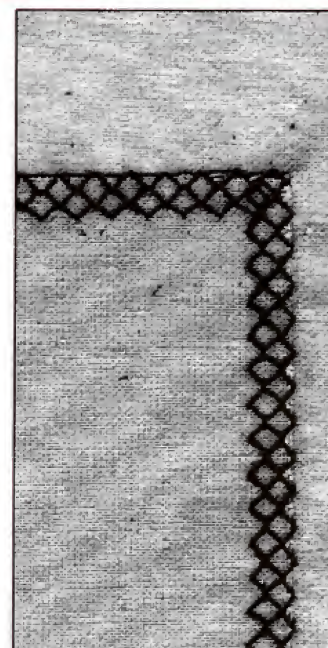
**Disguises worn or torn areas**  
in medium to heavy weight fabrics, especially clothing

### Preparation

- do not cut damaged area
- pin and baste patch to right side

### Sewing

- sew over edges with Honeycomb or Running stitch  
Honeycomb stitches should be on the patch –  
needle pierces just inside the outer edge
- sew a row of straight stitches on the inside edge of  
the Honeycomb stitch – this makes it easier to cut away  
the damaged fabric
- cut away damaged fabric



## Patches on knits and jersey



Stitch: **Jersey stitch** (only activa 140)  
Needle: **80/70**  
Thread: **darning thread**  
Feed-dog: **sewing**  
Presser foot: **Reverse pattern foot no. 1**

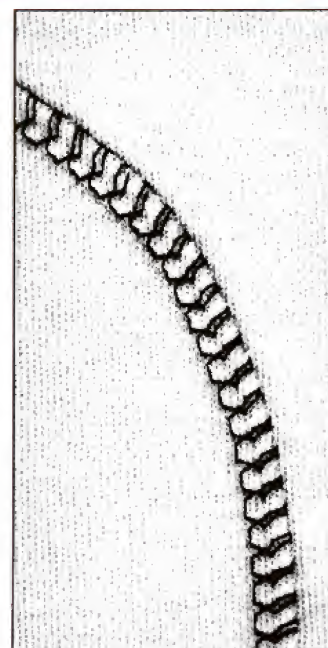
**Disguises worn or damaged areas**  
particularly for stretchy fabrics, especially underwear

### Preparation

- do not cut damaged area
- round off patch to retain elasticity
- pin and baste to right side

### Sewing

- sew over edge
- sew a second row inside the first if necessary
- cut away damaged area



## TIP

### Knits

- use a new needle to prevent damaging the loops

### Sewing stretch fabrics

- if necessary use a stretch needle (130/705 H-S) =  
needle slides between the fibers

### Fabric stretches and waves

- reduce presser foot pressure to suit the fabric



## Darning and mending tears with Running stitch



Stitch: **Running stitch**  
 Needle: **80/70**  
 Thread: **darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse pattern foot no. 1**  
 Function: **permanent reverse sewing**

### Quick mends

for tears and worn areas on all types of fabric

### Preparation

- for tears use a fine backing fabric

### Sewing

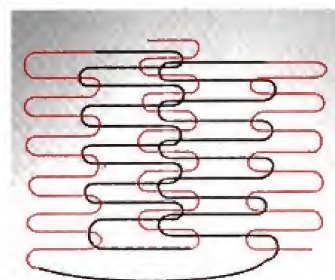
- tears: sew 3–5 rows of Running stitch
- worn areas: sew as many rows as necessary next to one another
- overlap each row slightly over the previous one



### Method

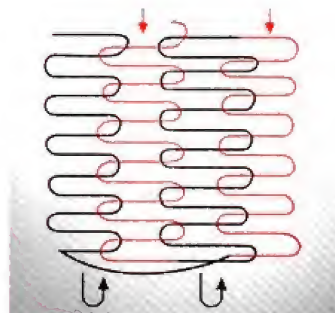
#### flat areas

- sew forward
- insert needle
- turn work
- sew forward again



#### tubular areas (trousers, sleeves)

- sew first row forward
- select continuous reverse sewing function
- sew second row in reverse
- delete function
- sew next row forward again
- repeat as necessary



### TIP

#### Backing for tears

- instead of fine fabric, use a piece of gauze or soft interlining

## Darning program



Stitch: **Darning Program**  
 Needle: **80/70**  
 Thread: **darning thread**  
 Feed-dog: **sewing**  
 Presser foot: **Reverse Pattern foot no. 1**



### Quick darning of holes or worn areas

- replaces threads with the grain in all fabrics



### Darning with Reverse Pattern foot no. 1

- select continuous reverse/stitch counter buttonhole selector
- insert the needle in the top left of the worn area
- sew the first vertical row
- press the quick reverse button at desired length
- continue sewing, machine stops automatically

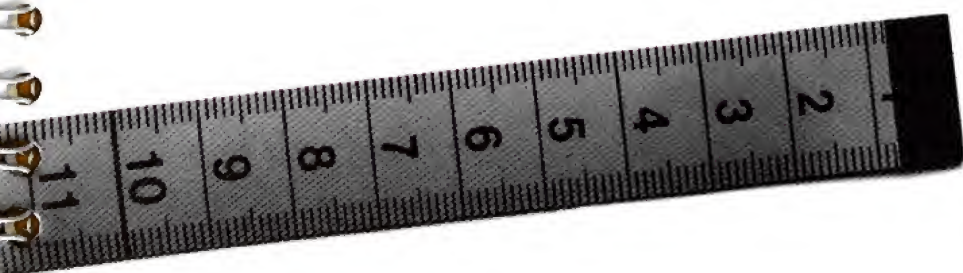
### Large areas:

The darning area can be extended by moving the work under the foot.

Clear the programme by pressing the clr/del button.

### Corrections

- if the darning becomes distorted, correct with Balance



### TIP

#### Reinforcement

- use fine fabric or interlining as a backing



# Darning

Stitch: **Straight stitch**  
 Needle: **80/70**  
 Thread: **darning thread**  
 Feed-dog: **darning (lowered)**  
 Presser foot: **Darning foot no. 9 (optional)**

**Darning holes or worn areas**  
 replaces both lengthways and horizontal threads in all fabrics

## Preparation

- stretch fabric into darning ring\*
- prevents puckering
- if possible, use the sewing table

## Sewing

- move darning ring smoothly
- work from left to right
- move without using pressure

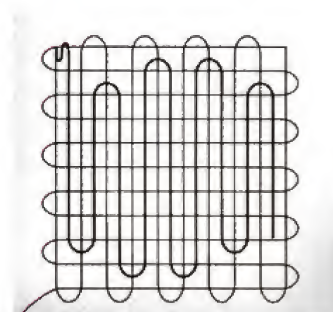
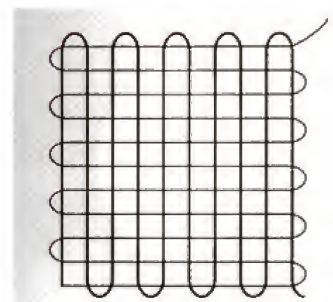
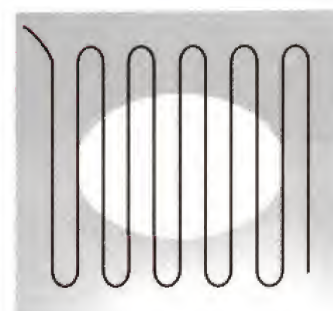
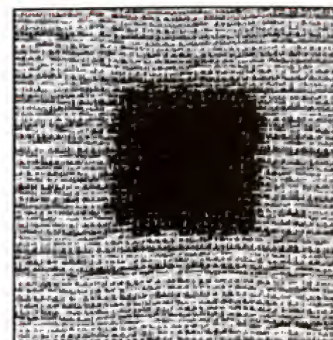
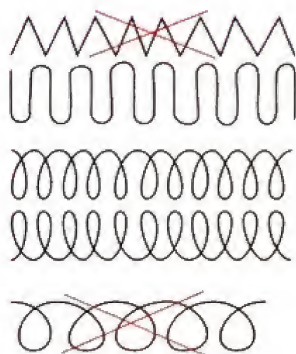
## Method

- sew first row
- turn work by 90°
- sew over the first row – not too close for a soft finish
- turn work by 90° again
- complete darning loosely and in same direction as first row
- in tubular items  
 first step in a horizontal direction  
 second and third steps in lengthways direction
- when you have mastered the technique  
 work the rows in irregular lengths so that the ends are lost in the fabric

## Important

- change direction in curves (no points)  
 = prevents holes  
 = prevents thread breakage
- move as if writing L or M
- do not sew in circles = these do not mimic fabric construction

\*The darning ring is available as special accessory.



## TIP

### Thread breaks

- uneven movement of darning ring

### Stitch formation is not good, thread lies on top

- ring moved too quickly

### Knots on the underside

- ring moved too slowly

## Index

B		H		S		Z	
Blind hem	14	Hems with practical stitches	10	Securing stitch	3	Zig-zag seam	7
Buttonhole				Self-facing with honeycomb stitch	15	Zig-zag stitch	5
· keyhole	17			Sewing knits	11-12	Zipper	13
· standard	17	K		Shirring elastic	15		
· standard with gimp	18	Keyhole buttonhole Knits	17	Standard buttonhole	17		
			11	Standard buttonhole with gimp	18		
C				Straight stitch	2		
Couching	15	M		Super stretch seam	8		
		Mending tears	19	T			
D				Triple straight stitch seam	8		
Darning with running stitch	21	P					
Darning	23	Patching	20				
Darning Programme	24	Practical stitch seams	7	V			
Decorative stitches	6			Vari-overlock seam	9		
Double overlock seam	9	R		Visible hem with Jersey stitch	10		
		Ribbing with overlock seam	12	Visible hem with Triple zig-zag stitch	10		
E							
Edge stitching	4						
Elastic	15						
Elastic, sewing on	16						









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